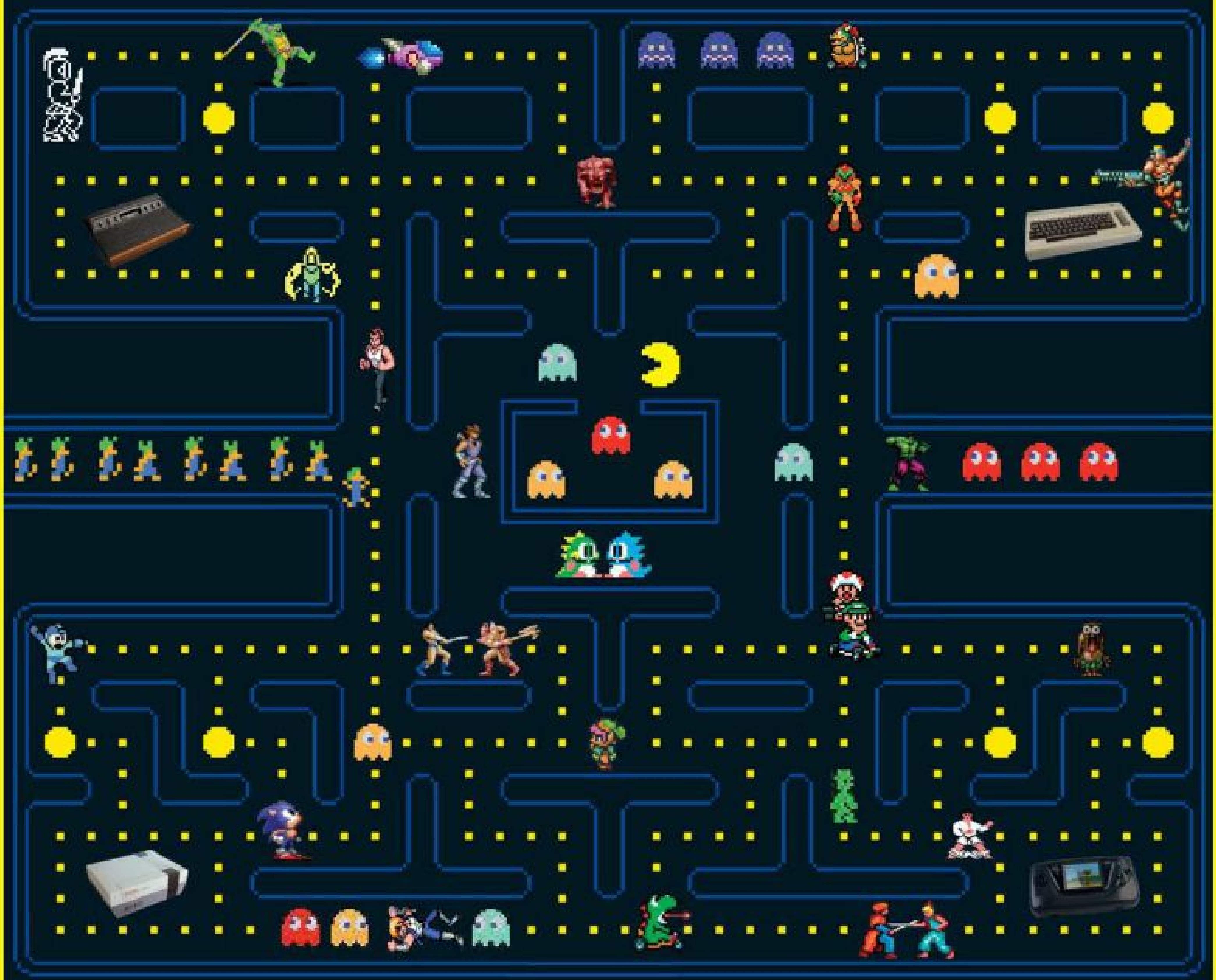
retro GAMER

Collection

VOLUME 7

The ultimate guide to classic videogaming

AMSTRAD | COMMODORE | SEGA | NINTENDO | ATARI | SINCLAIR | NEO-GEO | SONY | COIN-OP | MOBILE



228 PAGES OF CLASSIC RETRO GAMING INSIDE

Welcome to

retro GAMER Collection

The seventh Retro Gamer Collection is packed full of content that has been carefully selected from award-winning magazine Retro Gamer. With fascinating features and in-depth guides, take a trip down memory lane and discover the stories behind your favourite retro games. This book reveals the making of Final Fantasy VII as well as the much-loved Sonic the Hedgehog. It also examines the stories of Bubble Bobble and Monty Mole, and includes an interview with industry legend Andrew Braybrook. The book is an essential guide for anyone who loves classic gaming, and proves that the hobby is still going from strength to strength. So sit back, put your feet up, and get ready for some serious reminiscing.

Enjoy the book.



retro GAMER Collection

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IMAGINEER OF THE YEAR
WILLIAM SHUM

retro* GAMER Collection

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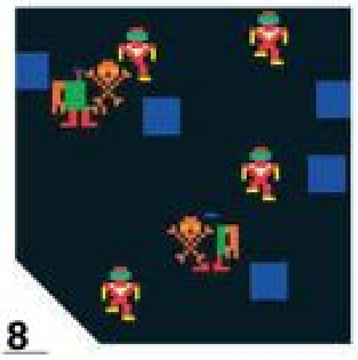

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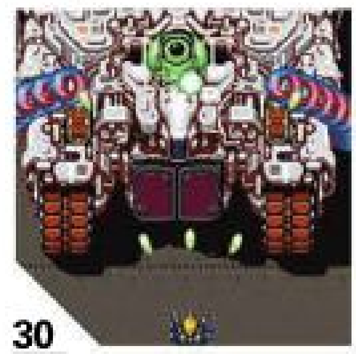


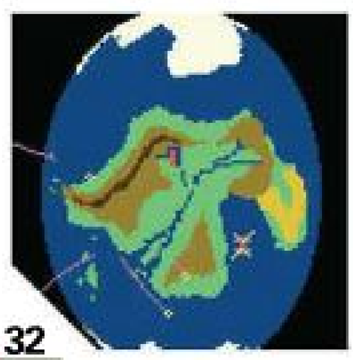
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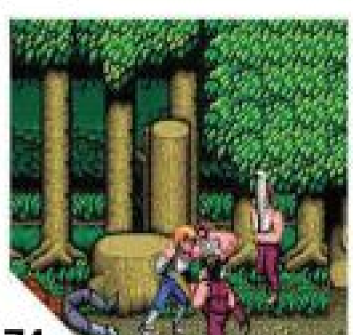

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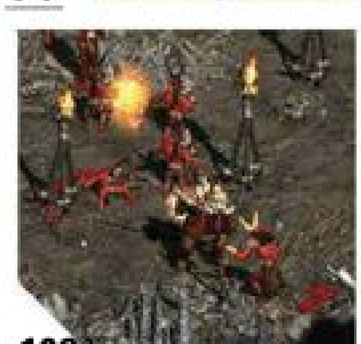

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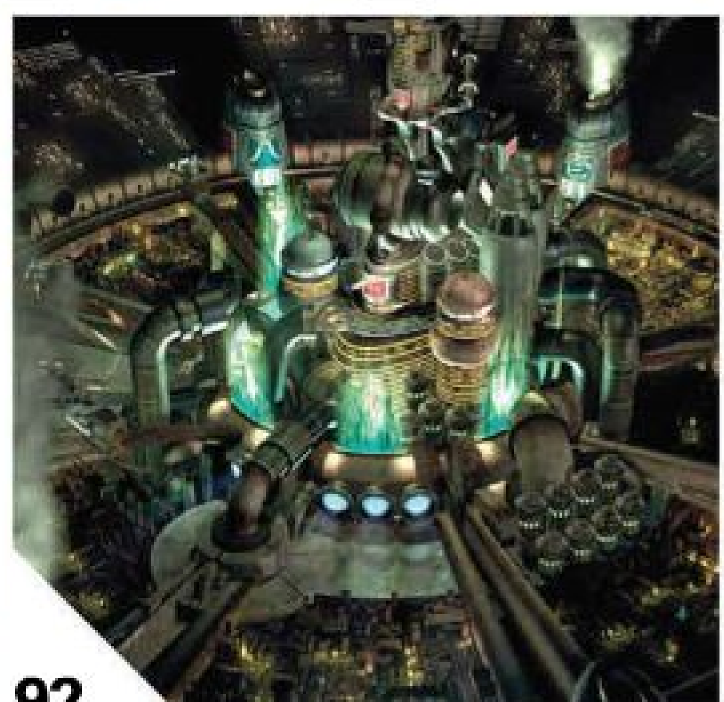

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» RETROREVIVAL DEVELOPER SPECIAL

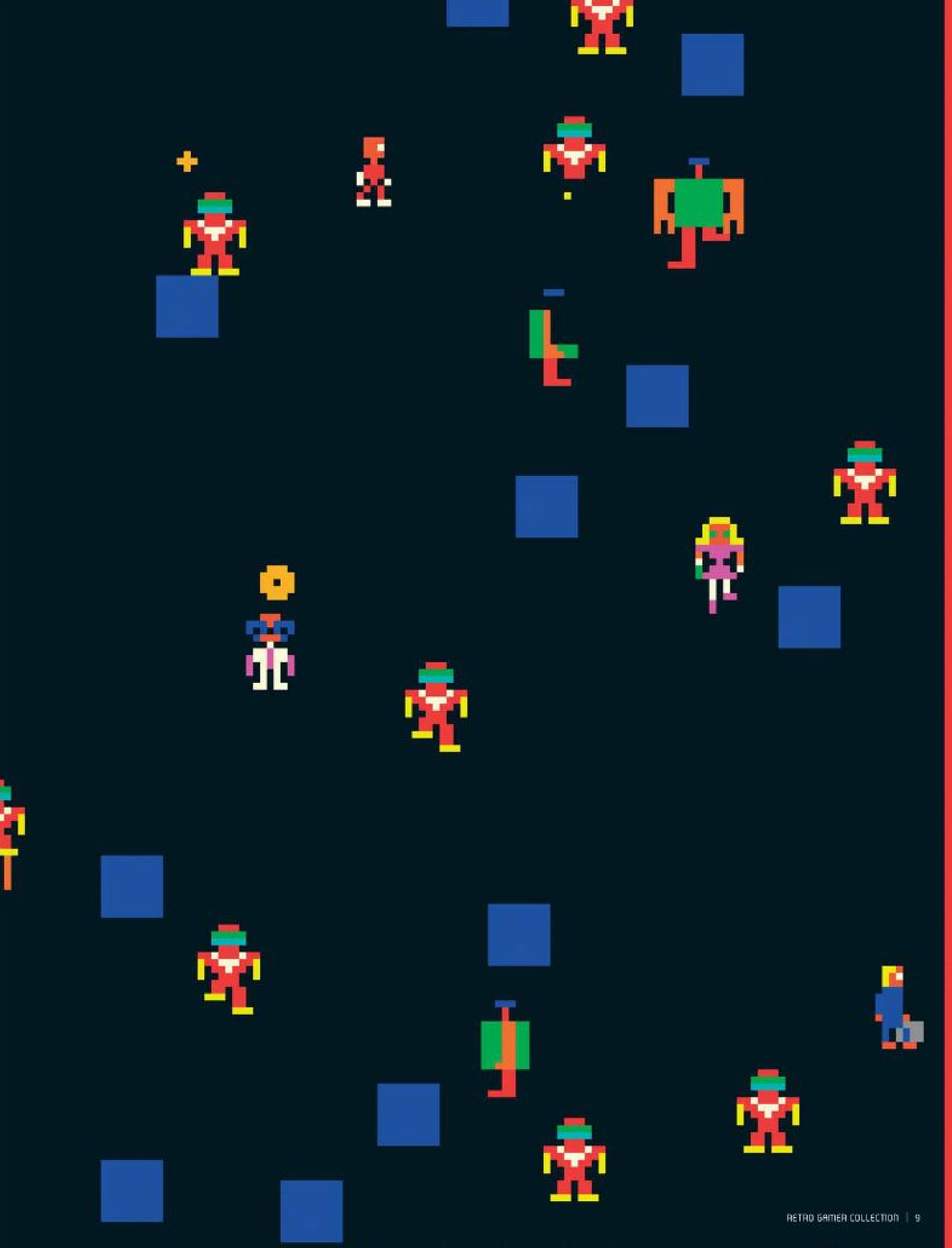
Robotron: 2084

BY EUGENE JARVIS, CO-CREATOR



» ARCADE
» VID KIDZ / WILLIAMS ELECTRONICS
» 1982

For a game developer the coolest thing is that magic moment when a bunch of pixels come to life and become a game for the first time. The singularity where artificial stupidity morphs into artificial life. Often this takes place after a sweat-drenched deathmarch of thousands of man-hours of art, code, level design, testing and managerial malpractice. At this point the team is too exhausted and jaded to even notice or care. But sometimes you get lucky, and instead of being a black hole swallowing your massive brilliance, the game is born with almost no effort. Like a supernova it spews a million times more magic then was input. *Robotron: 2084* was such a beast. As soon as I screwed two Atari 2600 joysticks to the control panel and fired up the first demo the magic was there. To move and fire with complete independence, blasting your way through hundreds of robot grunts, was total sensory overload. There were three or four sounds, single channel audio, all volumes at 11, one weapon, one enemy, a randomly generated playfield, and no special effects. On paper *Robotron* should have been a crappy three-day demo. But it came alive.

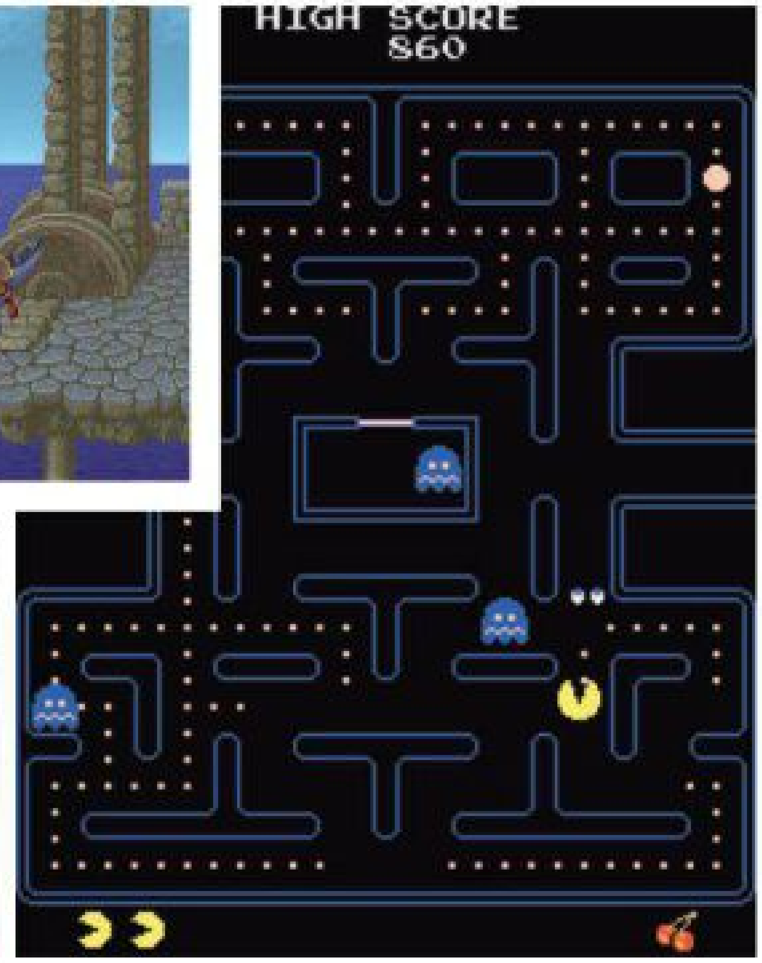



100
CLASSIC GAMING
MOMENTS



Videogames are filled with classic moments that mean a great deal to all who experience them. Some are revolutionary and can change a genre, while others are simply cool, but the best ones manage to leave a lasting impression on you. With that in mind, we're presenting 100 of our own classic moments that have made us smile, chuckle, recoil and cheer over the years, and have asked games industry veterans to include some of their most memorable moments as well. Enjoy.









DOOM
★ WIELDING THE BFG 9000

Getting hold of the BFG (Big F***ing, or Fragging, Gun) 9000 is a joyous moment. In a world as hellish as *Doom*, it's like a gift from heaven. That's why we dub it Bullets From God 9000.

DOUBLE DRAGON
★ FIGHTING YOUR MATE

After defeating Willy, players are forced to fight for Marian's affections. Never put a girl before friendship… unless you're playing *Double Dragon*.

DUKE NUKEM 3D
★ VISITING A STRIP BAR

The world of *Duke Nukem 3D* was littered with interactive hot spots and places to explore. The most iconic was a seedy strip bar where Duke could pay exotic dancers to shake what 3D Realms gave them.

METAL GEAR SOLID
★ PSYCHO MANTIS FIGHT

This freakish boss could read your memory card and every action, requiring players to think outside the box to defeat him.

DONKEY KONG
★ THE KISS

You've dodged barrels, cement pans and sentient fireballs, climbed countless rungs, and removed eight rivets to finally give Donkey Kong possible brain damage. All that's left is for Mario to collect his reward.

PAC-MAN
★ TURNING THE TABLES

Outnumbered four to one by deadly spectral foes, each round offered four opportunities to grab a Power Pellet and see Pac-Man become the tormentor.

STARFOX 64
★ KATINA

Though *Independence Day* has aged terribly, to play a re-creation of the movie's climax in *Star Fox 64* was pretty exciting stuff. The Katina stage sees Fox and pals rallying to protect a base from a phalanx of enemy fighters and a massive mothership.

STAR WARS
★ BLOWING UP THE DEATH STAR

Wish fulfilment is something games do brilliantly. Letting you live out the movie's climactic Death Star assault, Atari's *Star Wars* coin-op proves this better than any other game.

SUPER MARIO BROS
★ WORLD 1-2 WARP ZONE

Usually, all breaking through a playing field gets you is entry to a fragile glitch universe of grey nothingness. In *Super Mario Bros* it rewarded you with a memorable ticket to the later stages in the game.

GOLDEN AXE
★ YOU'RE FIGHTING ON GIANT ANIMALS

"I'm hacking away at people on the back of a giant turtle and the top of a majestic eagle." Sure beats neon streets and disorganised warehouses.

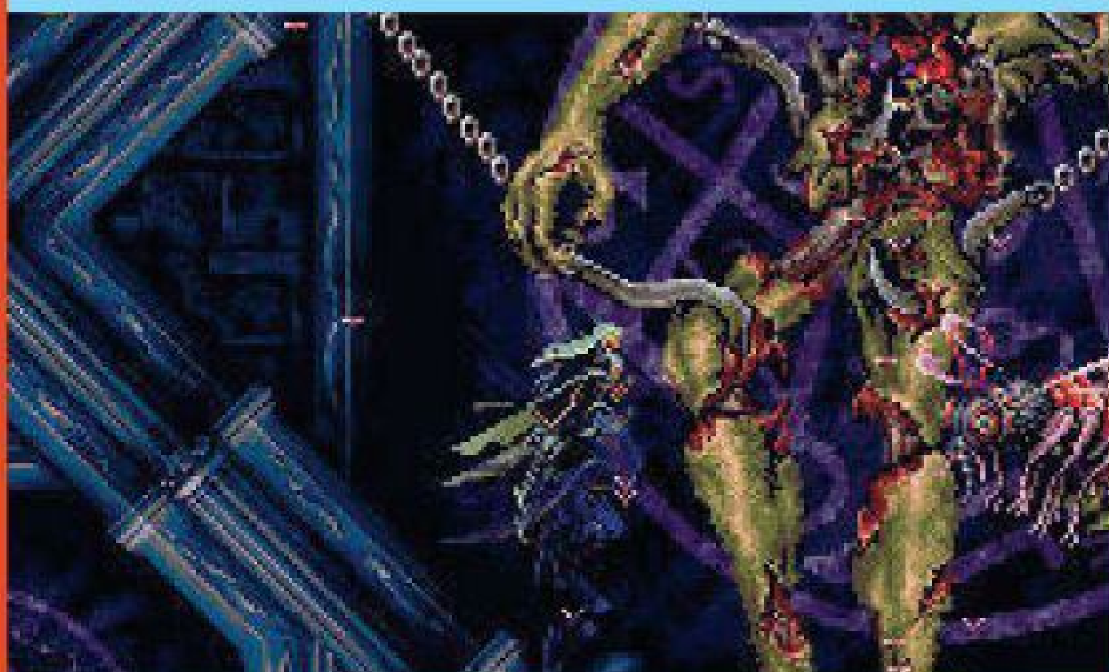
PONG
★ TWO'S COMPANY

Beating a human opponent for the very first time and realising that gaming was more fun with a friend.

OUTRUN
★ DECISIONS, DECISIONS

You're racing along in your open-top Ferrari Testarossa at breakneck speeds, your girl at your side. Suddenly the road begins to split





DEVELOPER HIGHLIGHTS

WIL OVERTON

"Sitting in front of a C64 and a portable TV with my mate, Robin, sometime in 1984, as we both tried to beat Lee Braine's crushingly unforgiving *Where's My Bones?* for the umpteenth time. We never did finish it but we still talk about it now. A simple game and a happy time. No HD or internet connection required."



DEVELOPER HIGHLIGHTS

COLIN JONES

"Joy isn't an emotion I often associate with videogames, but that's what I remember while playing *Eco*, an evolution simulator from Denton Designs. Running around a green world as a wireframe dog was a fine moment of Atari ST-induced freedom. Eating, mating – am I remembering this right? – and generally having a good time led to more control of your genetic code and the ability to upgrade species. I stopped when my creature attained human status – I knew I'd peaked by then. But thanks to Denton Designs for a moment of joy, and a perfect little alternate universe."

in two and you realise that, for the first time in a racing game, you have a choice, and it's a feeling of freedom that remains unmatched.

ZELDA: A LINK TO THE PAST

★ ANOTHER WORLD

Visiting the Dark World for the first time and realising that Link's adventure is far from over.

CASTLEVANIA: SYMPHONY OF THE NIGHT

★ INVERTED CASTLE

Successfully saving Richter and discovering that Dracula's castle has inverted, giving you a brand new citadel to negotiate.

CONTRA III: THE ALIEN WARS

★ CUE TERMINATOR BOSS

The room turns ominously quiet. Slowly, a skeletal claw breaks through the loading doors, and then another. The doors are pulled back to reveal a gigantic, red-eyed, robotic skeletal head. Eek!

WIPEOUT

★ SHAKE IT, BABY

Taking out every opponent ahead of you with a well-timed blast of the Disruptor.

THE SECRET OF MONKEY ISLAND

★ INSULT SWORD FIGHT

Participating in your first hilarious insult fight, requiring wits as sharp as your sword. "You fight like a dairy farmer." "How appropriate. You fight like a cow."

IMPOSSIBLE MISSION

★ THAT SPEECH

The first time you heard your Commodore 64 say, "Another visitor! Stay a while. Staaaaaay FOREVER!" Still sends shivers down our spines.

FINAL FANTASY VII

★ AERIS'S DEATH

Main characters you love don't die in videogames. They do in *Final Fantasy VII*, though, and Aeris's death at the hands of Sephiroth remains one of the most heartbreaking videogame moments of all time.

3D MONSTER MAZE

★ HE'S BEHIND YOU!

You're trapped in a maze with a dangerous T-rex and see the following words appear on screen: "Run! He's behind you!" Still scares the life out of us.

MEGA MAN

★ LEVELLING UP IN STYLE

Hang on, so when I defeat a Robot Master, I own his soul? Cool!

BARBARIAN: THE ULTIMATE WARRIOR

★ HEADS WILL ROLL

Successfully executing the decapitation move and seeing





your opponent's disembodied head get disrespectfully punted by a goblin.

NHL HOCKEY
★ FIGHT!!!!

Multiplayer was fun, but it's the satisfyingly bloody brawls in EA's *NHL Hockey* series that videogame hockey fans remember the most.

SONIC THE HEDGEHOG
★ GREEN HILL ZOOM

Racing through *Sonic*'s first stage and experiencing the blinding speed, bright colours, punchy music and the loop-the-loop, and feeling that home videogames would never quite be the same again.

TOMB RAIDER
★ T-REX ENCOUNTER

Lara enters the Lost Valley and discovers a ferocious killer from the past wandering its tropical surroundings. The ominous sense that you could cross paths with the beast at any moment made this one of the best moments in the series. It's *3D Monster Maze* all over again.

FINAL FIGHT
★ BEAT A BEEMER

Few bonus rounds are as iconic as *Final Fight*'s car-whacking stage. It certainly made a refreshing change from fighting countless rockabilly street punks called Relay and Hand.

STREETS OF RAGE
★ JOIN OR FIGHT?

In the spirit of *Double Dragon*, upon reaching the final boss, Mr X, he asks players if they would like to join his criminal organisation rather than overthrow it.

RESIDENT EVIL
★ THE FIRST ZOMBIE

After disturbing him from gorging on the entrails of poor Kenneth J Sullivan, the player gets a warts-and-all close-up of *Resident Evil*'s first ever zombie.

GHOSTS 'N GOBLINS
★ ARTHUR'S DIGNITY

Arthur loses his armour and is forced to continue his mission in just his boxer shorts, emphasising the feeling of vulnerability. Thankfully, Capcom didn't do a similar thing in *Commando*.

THE REVENGE OF SHINOBI
★ JOE VERSUS BATMAN AND SPIDER-MAN

The sequel to *Shinobi* saw Joe fight not one but two comic book heavyweights in an unsanctioned battle set up by Sega and... well, just Sega.

DRAGON'S LAIR
★ THOSE GRAPHICS

Oh my god! It's like playing an interactive cartoon!

STRIDER
★ DOWNHILL RUN

Strider's downhill run remains one of the most exhilarating moments in any videogame. Beautifully paced to the soundtrack, Strider runs down a mountainside, explosions biting at his heels, before effortlessly cartwheeling over a large chasm. Breathless.

REZ
★ BEST FINAL STAGE

Rez's final stage is one of the best of any videogame. Period. Epic in scale, and beautifully synced to Adam Freeland's fantastic *Fear*, it's a magnificent experience that needs to be fully appreciated with the lights off and the sound way up. Trance Vibrator is optional.

R-TYPE
★ LOOK AT THE SIZE OF THAT THING!

While meeting Dobkeratops sticks in the memory of many, *R-Type*'s third stage really left an impression. The entire level is one epic battle against an enormous mothership. Many have emulated it since, but Irem nailed it.

PRINCE OF PERSIA
★ SELF-DESTRUCTION

Faced with your doppelganger, you're thwarted by an opponent who can read your every move. Jordan Mechner's genius was allowing you to sheath your blade, then jump into and destroy your dark twin.

MANIC MINER
★ GETTING THE BOOT

The *Monty Python*-styled boot that crushes poor Willy when he runs out of lives. Surreal British humour at its best.

BACK TO SKOOL
★ THE WRITING'S ON THE WALL

The first time you wrote a word – most likely a swear word – onto one of the blackboards.

HEAD OVER HEELS
★ FRIENDS REUNITED

Fighting through all manner of devilishly tricky screens and finally uniting Head and Heels, only to realise that you'll have to continually split them up at specific points to properly finish the game.

DEVELOPER HIGHLIGHTS

STEVE CROW

"One of my favourite games back in the Eighties was *Uridium* by Andrew Braybrook. It had such a good feel and was silky smooth on the C64. It was also incredibly hard but certainly fun to play. At the time it was an original twist on the *Defender*/*Scramble* type of game that elevated it to a whole other level."





DEVELOPER HIGHLIGHTS

STEWART GILRAY

"I remember the very first time loading up *Knight Lore* on the ZX Spectrum and thinking, 'What is this strange magic?' Then switching it off as I couldn't get my head around the concept of isometric 3D graphics. It took six months before I decided to try it again."





PARADROID
★ YOU NEVER FORGET YOUR FIRST TIME

Being an Influence Device is no fun in Andrew Braybrook's *Paradroid*. That is until you complete your first mini-game and can successfully take over and destroy a far larger foe with better armour and weapons. Suddenly the ship isn't such a scary place any more.

WAVE RACE 64
★ AMAZING WAVING

Lots of games feature impressive physics, but rarely have they been as convincing as Nintendo's *Wave Race 64*. Not only are you battling the other racers, but you're also fighting the very elements.

LEMMINGS
★ NUKING LEMMINGS

There are few videogame moments as satisfying as meeting your Lemmings rescue quota and then giving yourself a pat on the back by blowing up the unneeded stragglers. Quicker than marching them off a cliff.

WANTED: MONTY MOLE
★ ARTHUR SCARGILL BOSS

One screen away from escaping with his coal, ready for the approaching winter, all that stands between Monty and the threat of hypothermia is NUM leader Arthur Scargill. Who says games aren't political?

SONIC THE HEDGEHOG 2
★ SUPER SONIC

Collecting all the Chaos Emeralds in *Sonic The Hedgehog* rewarded you with a slightly better ending. Grabbing them all in *Sonic 2*, though – and then 50 rings – transformed Sonic into a hyper-fast, semi-invincible blond rocket.

TETRIS
★ MAKING BEST USE OF A 1X4 BLOCK

Slotting said block down a well-organised wall and causing four horizontal lines of bricks to vanish for maximum points.

SYNDICATE
★ USING THE GAUSS GUN

Okay, it looks a bit like a sex toy, but this pocket-sized rocket launcher was capable of doing some serious damage in the bleak future world of *Syndicate*.

SUPER MARIO BROS 3
★ FLYING PLUMBER

Super Mario Bros 3 introduced a host of new powers for Mario. The coolest of which was the Super Leaf, which dressed him in a fetching raccoon suit and gave him the ability to momentarily fly.

HALF-LIFE
★ GRAND OPENING

The opening of *Half-Life* was a masterclass in scene-setting. Arriving late for his first day at work, Gordon Freeman is given a tram tour of his new workplace, cleverly foreshadowing places he'll be fighting through later on in the game, and gets a front-row seat to see the world-changing events unfurl. It's a seamless and attention-grabbing intro that many games since have tried to mimic.

GUNSTAR HEROES
★ THE DICE ROOM

Gunstar Heroes is loaded with inventive, action-packed levels, but the Dice Room is the standout, taking on the design of a board game where the bad spaces on the board whisk our heroes to deadly chambers and barmy boss battles.





DEVELOPER HIGHLIGHTS

BRENDAN GUNN

"My most memorable gaming moment was playing *Gunship* on the Commodore 64. One night I was hunting down a Russian chopper that kept disappearing behind hills. I saw it duck behind one hill in particular, and I decided to sneak round the other side. As I approached, the chopper popped up over the crest and pumped a couple of missiles at me from close range. There was nothing I could do. I released some chaff out of desperation, but I knew it was too late. The missiles hit, and I suffered a total power cut, leaving me in both darkness and shock. I almost thought I was dead for real."

READER MOMENTS

Readers share some of their all-time favourite gaming moments

Halo: Combat Evolved. The massive end battle between The Flood and the Covenant. What shocked me was that I was effectively the last human on the planet and had been forgotten about, as The Covenant now just cared about fleeing from the parasite. It dawned on me that I was completely and utterly alone, and, for the first time in a videogame, I was no longer the focal point of the world I inhabited.
Simon O Flaherty

Playing *GoldenEye 007* in multiplayer was absolutely fantastic fun. The clothes gradually get soaked with blood and turn red, the walls and scenery get shot to pieces and stay that way for a short while. Brilliant detail.
Davecaster

Getting my Atari VCS with *Space Invaders* when I was 9. The idea of having *Space Invaders* in your own home was unimaginable!
Ned Langman

Ice Cream! Ice Cream! surely the most iconic SFX sample of the 90s.
Tim Fitches

I used to enjoy taking Lara Croft to the highest point of a level, then swan diving down to a satisfying bone-crunching demise.
Rapidly-greying





DEVELOPER HIGHLIGHTS

SIMON BUTLER

"One of my favourite moments was loading up *Knight Lore* for the very first time. I know this probably seems like a safe and clichéd choice, but I had waited so long to play it and read all the previews and snippets in the magazines of the time. I remember I ran out on my lunch break from Denton Designs on the day of its release, bought a copy, and hot-footed it back. As usual, those damn things never loaded as fast as one would have liked, but when it did I was just gobsmacked. Sure, I'd seen isometric in *Zombie Zombie* and *3D Ant Attack* (two faves), but this just had something special."



DEVELOPER HIGHLIGHTS

GARY BRACEY

"*Donkey Kong* was the arcade game to first hook me and get me interested in videogames.

My love for *Manic Miner* made me decide to forge a career in videogames.

Achieving 1 million unit sales of our *RoboCop* game confirmed I'd chosen the right career path.

Seeing Digimask [face-mapping technology] used in *Rainbow Six Vegas*.

More recently, playing nuggets like *Ico*, *BioShock*, *Portal* and *Arkham Asylum* reassures me that there remains a plethora of creative, talented people out there and fresh gameplay concepts are still achievable."



KNIGHT LORE
★ TRANSFORMING INTO A WEREWOLF

Knight Lore's 3D 'Filmation' graphics were mind-blowing alone, but your character also suffered from lycanthropy. It was put to great use in the puzzles and was also an effective motivator to complete your mission.

ROBOCOP
★ SHOOT BETWEEN THE LEGS!

It let you shoot a violent pervert straight in the gonads.

METROID
★ FIRST FEMALE LEAD!

The end of *Metroid*, where you discover that the macho bounty hunter who's been running around slaying Space Pirates and being badass is a woman.

ANT ATTACK
★ ANT HARM

Wandering the mesmerising isometric world of Antescher was a marvel in itself back in 1983. There was a sense of urgency to your mission, though, as a young girl or boy was waiting to be rescued from the many giant ants that surrounded them. Getting your charge to safety remains one of the most satisfying moments of any videogame.

HALO
★ THE SILENT CARTOGRAPHER

One minute you're swooping over a battlefield watching the fight below you, and the next you're seamlessly thrust into it, desperately trying to stay alive.

STEEL BATTALION
★ EJECT, EJECT!

While starting up your mech in *Steel Battalion* is a memorable moment in itself, it's the sheer panic from reaching for and trying to activate the eject button that really lingers in the memory. Fail to hit it in time and your save is wiped, dumping you back to the start.

ETERNAL DARKNESS
★ I'M SEEING THINGS

This game was an office favourite, with the inability to move, an irritating fly you couldn't swat at and your TV switching itself off all rating highly as everyone's favourite insanity effects. The best by far, though, is the prompt you get to erase your memory card. You, of course, say no – only to see the card delete anyway, erasing all your hard work. Looking on with panic-stricken eyes, the game flicks back with all your data intact, revealing yet another evil but very clever insanity effect.

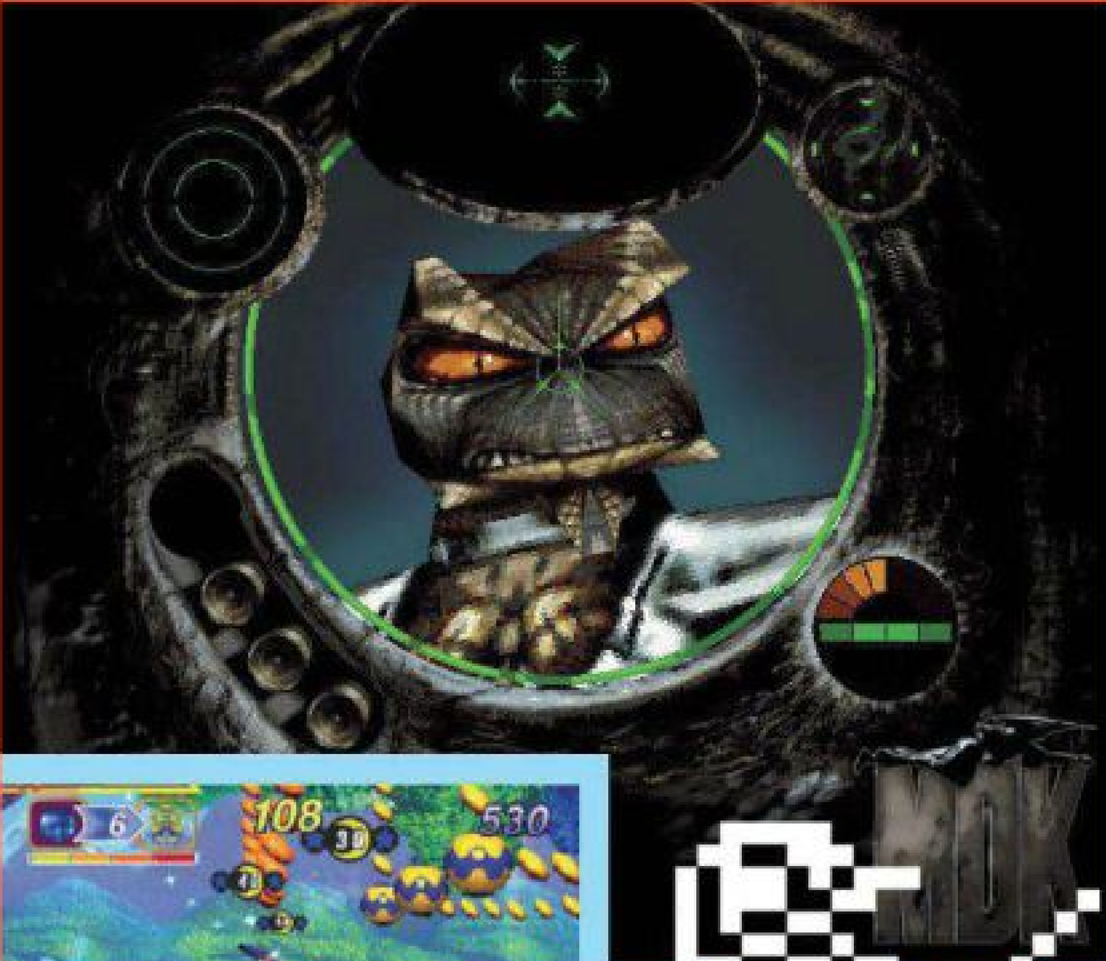
STREET FIGHTER III
★ THE DELIBERATE PARRY

Anyone can parry by accident, but the sense of satisfaction you receive when you purposely pull one off is one of the best feelings around.

RESIDENT EVIL 4
★ FIGHTING KRAUSER

You could fill a magazine with *Resident Evil 4*'s best moments, but the superb QTE fight with

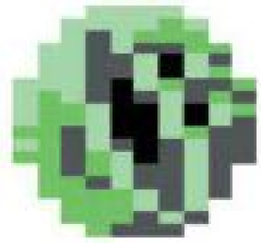












DEVELOPER HIGHLIGHTS

RICHARD SPITALNY

"Showing *Boulder Dash* on the Atari 400/800 before it was finished to Arnie Katz and Bill Kunkel – two of the three founders of *Electronic Games* magazine – and seeing their excitement, confirming our instincts that the game would be a hit. Of course not knowing then what a BIG hit it would become."

DEVELOPER HIGHLIGHTS

TRIP HAWKINS

"My favorite moments have always involved social play when casual players have been able to beat me in one of the games that I designed. They are so thrilled when this happens! I designed a casual social game for the 3DO called *Twisted* and was playing it with family members including my kids and their grandfather. You need to advance 100 steps up this staircase and I was on step 99, guaranteed to win on my next turn. But one of the plot twists is a move in which the leader must trade positions with the last-place player. The kids and the grandfather were astounded when he suddenly jumped from dead last to first and won the game, beating me when they all thought I had an insurmountable lead. They were all jumping around the room, waving their arms and laughing and shouting, and grandpa was beaming with delight. Aren't games wonderful?"



Krauser is easily its most unforgettable moment.

IK+

★ **TROUSER PRESS**

Pressing 'T' in Archer Maclean's superb karate sequel. Still makes us laugh now.

SHADOW OF THE COLOSSUS

★ **THE GUILT!**

Realising that the gigantic beasts you've destroyed weren't a threat to anybody, but you went ahead and killed them anyway. Never before has a game extracted such guilty emotions from us.

GOLDENEYE 007

★ **ONE-HIT KILL**

Making a mad dash for the Golden Gun and using it to get one-hit kills in Rare's superb multiplayer game.

GHOSTBUSTERS

★ **BUSTIN' MAKES YOU FEEL GOOD!**

You've positioned two Ghostbusters at opposite ends of the screen and have Slimer trapped inside their proton beams. You then slam the fire button to release the trap and send a grabbing arm up into the air to snatch him. Bonus points for jumping up from your seat, shouting, 'We got one!'

MORTAL KOMBAT

★ **FINISH HIM!**

From separating your opponent's head and spine from their body, to pulling out their still-beating heart, *Mortal Kombat*'s satisfying ways to humiliate your mates after kicking their arses.

GTA III

★ **FIRST OFFENCE**

Realising that *GTA III* wasn't just a game but a vast playground for crazy misdeeds.

IKARI WARRIORS

★ **DRIVING THE TANK**

From *Halo*'s Scorpion to *Metal Slug*'s SV-001, tanks are the most empowering vehicles in videogames. For many, their first experience of jumping in and out of one came here.

MDK

★ **SNIPER MODE**

These days every game featuring bullets has a sniper weapon of sorts. *MDK* was the game to popularise and show off their potential, allowing players to be stood at one end of the world and stick a bullet in the head of an alien target standing at the opposite.

KILLER INSTINCT

★ **KILLER COMBOS**

***Street Fighter II* had dazzling special moves, *Mortal Kombat* its Fatalities, and Rare's *Killer Instinct* franchise was all about stringing together a ludicrous number of punches and kicks, while your annoyed mate threw down the SNES pad and used the time until the combo finished to put the kettle on.**

SUPER MARIO KART

★ **USING THE CAPE FEATHER IN GHOST VALLEY 1**

The Cape Feather has only appeared in the original *Super Mario Kart*. It's a shame, because Ghost Valley 1's famous short cut demonstrated how it could be put to great use.

NIGHTS INTO DREAMS

★ **THE LEAP OF FAITH**

The leap of faith at the beginning of Twin Seeds is said to represent Elliot and Claris discovering their inner courage. Taking to the skies, they are finally prepared for the final battle with Wizeman.

SONIC ADVENTURE

★ **WHALE CHASE**

Racing Sonic through Emerald Coast as all concerns about his jump into 3D quickly melted away. Unfortunately, the feeling didn't last long.

PARAPPA THE RAPPER

★ **THE FINAL RAP**

It's a combination of neat semi-freestyle solo rapping, a catchy song and a club full of flat animals getting behind your rhythm-action skills that makes this one of the most uplifting moments in videogames.

SABRE WULF

★ **CRYING WULF**

Frantically running around the vibrant jungles of *Sabre Wulf* and yelping with panic as you encounter the titular wolf. Sorry, should that be 'Wulf'?



FEUD
★ CAT AND MOUSE
Picking herbs might not sound exciting, but when your evil twin is doing the same thing in order to make the best spells, the act becomes an amazingly tense game of cat and mouse. The sense of panic you feel when discovered by Leanoric is only matched by the sheer triumph that comes from turning the tables on him.

WIZBALL
★ COLOURFILL
Watching the drab monotone world of Wizworld slowly come back to life as you collect paint drops and restore the ugly world to its original, vibrant glory.

DRILLER
★ TAKING IN THE SCENE
Painstakingly crawling around the huge moon of Mitral and realising that you were experiencing something seemingly inconceivable on your humble 8-bit micro.

MONKEY ISLAND 2
★ LET'S PRETEND
Depending on who you ask, the ending of *Monkey Island 2* is either a stroke of genius or an evil joke that should be instantly dismissed from memory. Regardless of which side of the argument you take, it's certainly a great gaming moment, turning everything you thought about the series on its head. The adventures in the two games equate to nothing more than a pair of brothers playing at being pirates.

AXELAY
★ ENTER WAYLER
Watching Wayler menacingly appear from a pool of lava for the first time. Look out for his giant, crushing hands!

PANZER DRAGOON SAGA
★ MISSILE CHASE
Great moments come quickly and often in Team Andromeda's superb Saturn game. One of the most gripping moments, though, comes when you're chasing after a rogue missile and trying to stop it from decimating a peaceful village.

BULLET HELL
★ STAY ON TARGET
It doesn't matter whether it's an early example of the genre like *Batsugun* or more recent example such as *Deathsmiles* or *Mushihime-sama Futari*, nothing beats the satisfaction of successfully weaving through your first bullet pattern.

ADVENTURE
★ THAR BE DRAGONS
It may look like a duck, but getting chased by a dragon in *Adventure* is one of the scariest moments in Atari 2600 gaming.

SUPER MARIO 64
★ BYE BYE BOWSER
Grabbing Bowser by his tail and spinning him around until you send him into the ether.

SMASH TV
★ MUTOID MAN
As far as videogame bosses go, few are as menacing and memorable as Mutoid Man. The moment this huge, imposing man-tank wheeled his way into the battle arena, a feeling of both dread and awe hit the player.

SHENMUE
★ RUMBLE IN THE DOCKS
Part of the epic finale to *Shenmue* sees Ryo calling upon



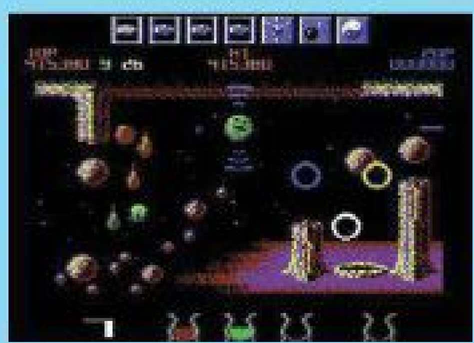
DEVELOPER HIGHLIGHTS

BILL HARBISON
"My favourite gaming moment was around ten years ago when I introduced my son to the world of videogames. At the age of around five, my son, Edward, was watching me play *Ocarina Of Time*. I decided to hand him the controller and show him what happened on the screen when you moved the thumbstick around and pressed the buttons. Within a few minutes, he was running around, climbing ladders and jumping off cliffs. It was a proud moment.

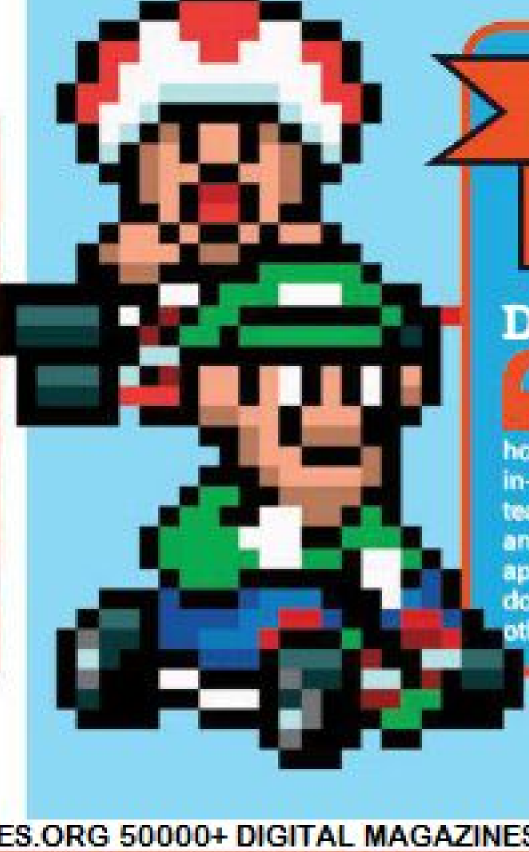
After a while he became bored of the repetition and threw the controller on the floor. The impact must have loosened something inside the controller and I watched in horror as the pause menu flashed up and started rapidly selecting my saved game slots. I pulled the controller from the N64 but it was too late; before I could get to it my entire progress was deleted. I was mortified. I had been playing that game for weeks and it was gone in a matter of seconds. My son then continued to play with his toys.

I didn't play *Ocarina Of Time* again until last year when I bought a 3DS and I have been thoroughly enjoying it the second time round. Edward, now nearly 16 years old, doesn't get near it."









DEVELOPER HIGHLIGHTS

DAVE COLLIER
"I suppose it would have to be the *Counter-Strike* mod for *Half-Life*. The second I started playing I was hooked, which was a first for me. The best in-game moment was when I was playing a team game; I was backup for Andy Clark and we were ambushing players as they approached and came through a doorway. We totally creamed the other team."

all the martial arts techniques he's learnt to fight 70 members of the Mad Angels gang. Yes, 70. It's an action-filled climax, with completion of the game unlocking a time-trial version of the battle.

WHERE TIME STOOD STILL

★ PTERODACTYL SNATCH

A game world where danger feels omnipresent and any one of the characters in your charge could be snatched away at any moment is affecting stuff. Commonplace in games like *Fallout 3* and *Skyrim*, this game did it waaaaaaaaay before them.

MIKE TYSON'S PUNCH-OUT!!

★ FIGHTING MIKE TYSON

Who wouldn't want to fight Iron Mike, especially in 1987? What, no one? Well, Nintendo offered the chance when it made him the final boss in the NES version of *Punch-Out!!*. Not only could he floor you in a single punch, but defeat at his padded fists ended in an instant game over. No pressure, then.

SINISTAR

★ SINISTAR, OF COURSE

'I am Sinistar!', 'I hunger, coward!', 'Run, run, run!' You get the idea.

SPACE INVADERS

★ THE NIPPY LONE BLIGHTER

The way the game gradually sped up until there was only one annoying invader left proved to be a simple but effective way to ramp up the tension.

MANIAC MANSION

★ MICROWAVING THE HAMSTER

One of the edgier jokes in *Maniac Mansion* sees players able to pluck Weird Ed's hamster from its cage and explode it in the kitchen microwave. Give the steaming remains back to Ed and he kills you. Lovely stuff.

SOUL EDGE

★ TO LOVE! TO SHINE!

In terms of attract screens, few have been cooler than *Soul Edge*. The stunning opening CG cut-scene and catchy music, *Edge Of Soul*, still give us goosebumps. The game wasn't bad either.

STREET FIGHTER II: THE WORLD WARRIOR

★ NOT YOUR USUAL FIGHTERS

Aside from its striking visuals and the sheer fluidity of the game, realising that its band of colourful fighters had astonishing special powers that required a degree of dexterity to perform and perfect led to picking lasting favourites.

ZORK

★ GETTING EATEN BY THE GRUE

Adventurers who went exploring in the dark ran the risk of getting



DEVELOPER HIGHLIGHTS

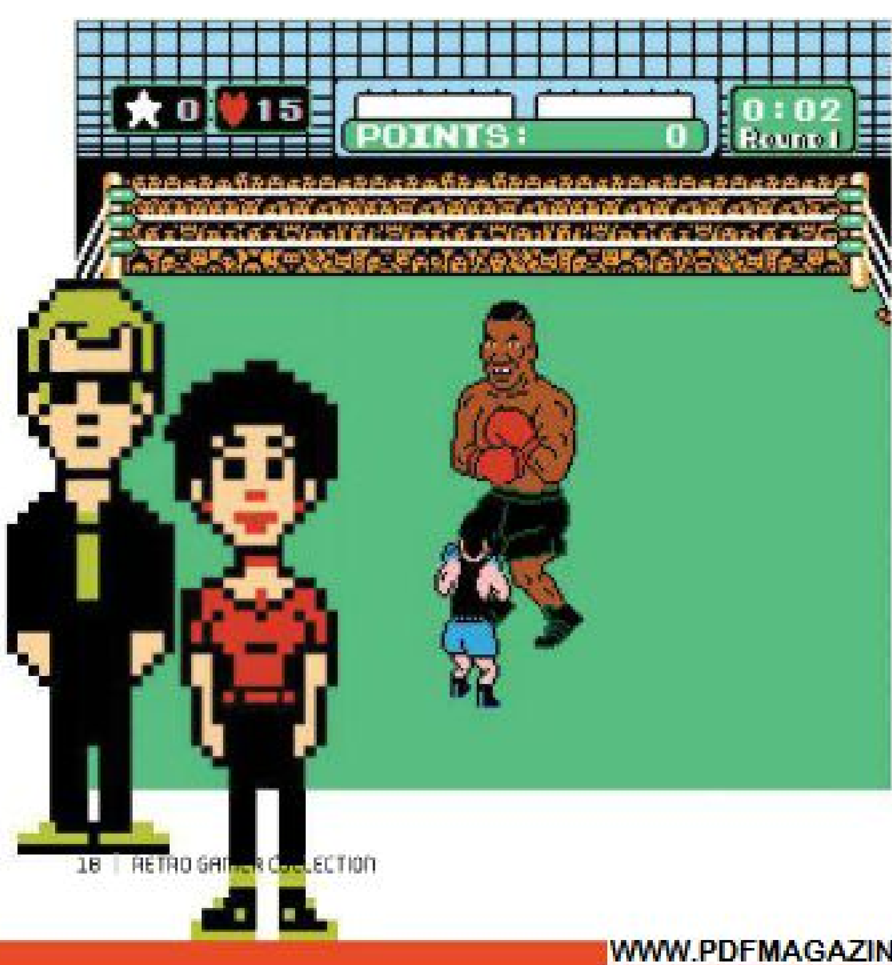
DAVID PERRY

"I'm sitting at a table with Hideo Kojima (*Metal Gear Solid*) and Stan Lee (*Spider-Man*), and we are signing autographs. There are lines of people. Finally, Stan Lee runs out of people interested in his autograph and Hideo Kojima still has a long, long line of people having him sign their wallets, clothing, etc. Stan Lee leans back in his chair and says to me: "Who is this guy?""













READER MOMENTS

Readers share some of their all-time favourite gaming moments

In *Tomb Raider* when you are in the sphinx room and you climb up onto it and then suddenly the camera zooms out and you see how vast the cavern is. Really breathtaking.
Thurstan Johnston

The first time you combine Head and Heels and not wanting to separate them later, even though you have to in order to continue with the game.
Shawn Pomeroy Habib

Stepping out of the grey, claustrophobic pizza that is Midgar into the green expanse of Gaia in *Final Fantasy VII*.
Simon Booth

Jumping atop Yoshi for the first time in *Super Mario World* with that awesome sound effect.
Tim Fitches

Acquiring Epona in *Ocarina Of Time* and jumping over the fence to the rousing symphony of an orchestra. What a beautiful moment.
Lee Beardsmore

SNAAAAAAAAAAAAKE!!!
Karlos



eaten by a sinister presence known as the Grue. You're left to fill in the violent and bloody visual blanks of what happened when he caught you.

ELITE
★ SPACE DOCKING

It's impressive enough just seeing the Cobra Mk III rotating majestically in space for the first time, but just you wait until you attempt your first dock. It's one of the most intense experiences you can ever witness on an 8-bit micro.

RESCUE ON FRACTALUS!
★ THAT'S NO PILOT

Getting scared witless by a Jaggi won't be an experience forgotten in a hurry.

WORLD OF WARCRAFT
★ FLIGHTS OF FANTASY

The name of the game is something of a giveaway, but it's not until you take a ride on your first flying beast of burden that you realise just how vast the world of *Warcraft* actually is.

ZELDA: OCARINA OF TIME
★ I'M IN A WIDE OPEN SPACE

It remains an obvious one, but stepping out onto Hyrule Field for the first time. The sheer size and the realisation that you can pretty much go anywhere you want remains unmatched by any similar game, *Zelda* or otherwise.

CHASE HQ
★ TAKING DOWN YOUR FIRST PERP

Chasing after bad guys in your modified Porsche is fun enough, but finally ramming them off the road remains one of the most exhilarating experiences the arcades could offer. "Let's go, Mr Driver!"

SILENT HILL
★ SHUT THAT DOOR

Silent Hill is a franchise full of powerful moments, but few can match the sheer guilt you feel after leaving Lisa to die a lonely death. As she begins to understand what is happening in the world around her, she starts to bleed and a frightened Harry pushes her away and bars the door. As you listen to her futile pounding against the door, you realise that you're just as much of a coward as Harry is.

MAX PAYNE
★ BULLET TIME

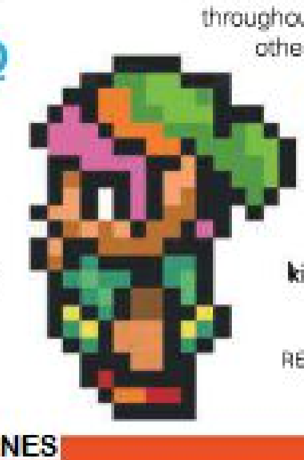
It might not have been the first game to feature 'bullet time', but never has it been cooler than in *Max Payne*. The best thing about it? No matter how often you use the feature, it's still as amazing as the first time.

PILOTWINGS
★ HANG GLIDE HEAVEN

That feeling of serenity as you fly through the Mode 7 skies was emblematic of what the new hardware could do.

POKÉMON RED & BLUE
★ I CHOOSE YOU!

For what seems inconsequential at the beginning of the game, choosing your first Pokémon is a massive deal. You build a personal bond with them throughout your adventure that no other game can match.



QUAKE
★ ROCKET MAN

Pulling off your first successful rocket jump without killing yourself.



AX BATTLER

This musclebound barbarian favours earth magic and the broad sword. He's seeking revenge against Death Adder for the murder of his mother and shouldn't be trifled with. He would later get his own spin-off game for the Game Gear called *Ax Battler: A Legend Of Golden Axe*.

TYRIS FLARE

This sexy Amazonian fighter is a firm favourite with players due to her excellent fire magic and extremely flimsy clothing. Like her companions, she has felt the wrath of Death Adder – both her parents were killed by him – and now seeks revenge. She wields a long sword with deadly precision.

Sega's *Golden Axe* was first unleashed in arcades in 1989. It immediately caused a stir upon its release thanks to its impressive visuals, imaginative fantasy setting and frantic multiplayer action that saw three friends joining together to hunt down the dangerous Death Adder, who had stolen the mythical Golden Axe of the title. Filled with a bestiary of fantastical monsters, huge bosses, exotic locations and an awesome array of magic special attacks, *Golden Axe* remains an excellent beat-'em-up that still manages to impress. We return to the battle-scarred world of Yuria and explain why Sega's hit still deserves your precious time.

GILIUS THUNDERHEAD

Hailing from the mines of Wolud, Gilius Thunderhead seeks to avenge the death of his brother, who was slain at the hands of Death Adder. Unlike his companions, Gilius fights with a battleaxe and likes to utilise the arcane power of lightning magic.

DEATH ADDER

Current owner of the mythical Golden Axe and currently ruling Yuria, Death Adder is one mean dude. He has the King and Princess in bonds and sits behind a huge army of enemies. Rumours suggest, however, that he's not the real mastermind behind the taking of Yuria…

MEMORABLE MOMENTS

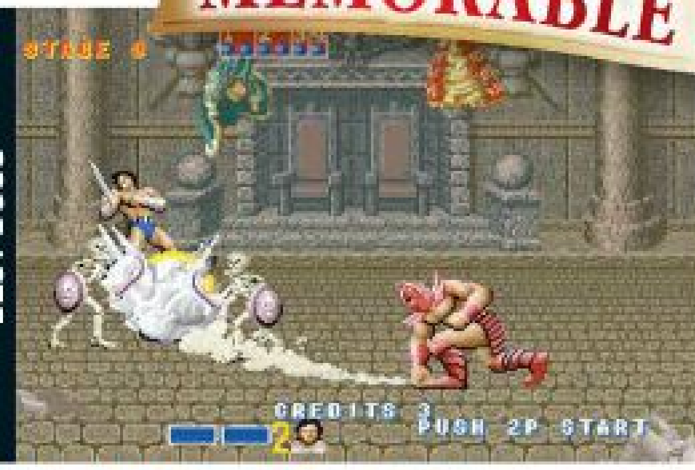
WHY IT'S A CLASSIC



It's thematically excellent

Golden Axe's biggest draw at its time of release was the fact that it was so different to other beat-'em-ups of the time. Inspired by hit Eighties films like *Conan The Barbarian* and *The Sword And The Sorcerer*, its distinct fantasy setting was a world away from the many urban brawlers that were available, which made it immediately stand apart from its peers. Even today, that fantasy setting can still draw you in, presenting you with vicious monsters, wondrous magic attacks and some immense bosses to fight. It's a little clunky, sure, but it remains a hell of a lot of fun to play.

BEST BOSS



Death Adder, not Blackadder

There are a number of memorable bosses found throughout *Golden Axe*'s running time, but Sega definitely saved the best for last. Huge in stature and wielding the fabled Golden Axe, Death Adder cuts an imposing figure. Protected by minions, including some extremely vicious skeletons, he's a dab hand at combat, effortlessly swinging the huge axe, while using devastating magic to take out those who stay out of range. He's also extremely tough, taking a massive amount of punishment before he finally gives up the titular axe, which flies spectacularly through the air before landing in his chest.

BEST LEVEL



Wind beneath my wings

One of our favourite aspects of *Golden Axe* is the degree of imagination and variety that has been packed into its clever level design. The fantasy world Sega created may borrow heavily from many different movies of the time, but they still manage to be filled with plenty of imagination. While Turtle Village is a particular highlight, it's the level that sees the heroes battle across the back of a giant eagle that remains the most memorable. Packed with deadly skeletons, feathers continually fly past the screen, giving a wonderful sensation of speed, as you battle against the undead foes.

BEST CHARACTER



Nobody tosses a dwarf

He may be small, but Gilius Thunderhead is our favourite character in *Golden Axe*. He's obviously a firm favourite with staff as well, as he features in all three Mega Drive games, as well as the underrated arcade game *Golden Axe: The Revenge Of Death Adder*, and has popped up in numerous other Sega games including *Shining In The Darkness*, *Alien Storm* and *Sega Superstar Tennis*. Fast on his feet and armed with a deadly double-headed axe, Gilius's lightning magic takes less time to charge, while his special attack gives him huge reach. In short, he's the perfect choice for solo play.

BEST CONVERSION



A truly mega conversion

Golden Axe was released on a variety of 8- and 16-bit computers. All are pretty solid. The 8-bit efforts are decent, with the C64 version receiving an impressive 96% back in issue 67 of *Zzap!64*. The Amiga and Atari ST conversions are also of a high standard. By far the best though is Sega's own conversion of its hit coin-op for the Mega Drive. In addition to being extremely faithful to the original coin-op it also boasts a number of extra features, including Dual mode and an additional two levels, including a climatic fight with Death Adder's mentor, Death Bringer.

BEST MOMENT



Enter the dragon

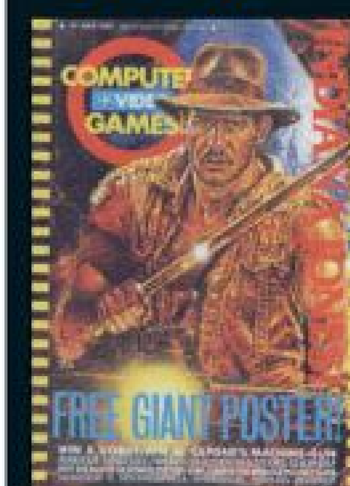
Kicking pixies in the arse to make them relinquish potions, jumping on the many bizzarians and using them as mounts, and successfully taking down your first skeleton are all memorable highlights of Sega's excellent beat-'em-up. However, the most impressive moment by far occurs whenever you unleash magic attacks on your hapless victims. Tyris Flare's magical attacks may require a large number of potions, but the effects are definitely worth it. Build her meter up to full and you'll be rewarded with a huge dragon whose fiery breath decimates all but the toughest of bosses.



IN THE KNOW

- **PLATFORM:** ARCADE
- **PUBLISHER:** SEGA
- **DEVELOPER:** IN-HOUSE
- **RELEASED:** 1989
- **GENRE:** BEAT-'EM-UP

What the press said... ages ago



Computer & Video Games

"Another winner from Sega, and one which seems exceedingly popular at the moment. Have a bash on this one as soon as it reaches your local arcade."

What we think

It's obviously showing its age now, but *Golden Axe* remains great fun to play, especially with a friend in tow. A highly enjoyable beat-'em-up that stands the test of time, and not just because we love Tyris Flare.

Computer Space

If you spent your youth hunched over an arcade cabinet blasting aliens, Computer Space is where it all began. We talk to Nolan Bushnell and Ted Dabney about the granddaddy of videogames



IN THE KNOW

- **PUBLISHER:** NUTTING ASSOCIATES
- **DEVELOPER:** SYZYGY
- **RELEASED:** 1971
- **PLATFORMS:** ARCADE
- **GENRE:** SHOOT-'EM-UP

It's summer 1966 and a young Nolan Bushnell, sporting sideburns but no bushy beard yet, is strolling through the Lagoon Amusement Park in Farmington, Utah. He's manager of the games department, working there to help pay his way through university. He smiles at the rows of pinball tables and electro-mechanical machines, guzzling coins from eager players.

Back at the University of Utah, Nolan is up late, playing *Spacewar!* in the computer lab into the early hours. The game, created by Steve Russell and friends at MIT in 1962, has two starship commanders locked in a deep space dogfight. It's a big hit on campus. And suddenly, a connection is made...

"I turned to the fraternity brother I was playing against and said: 'This is a great game! We could get people to put a quarter in to play this at Lagoon!'" exclaims Nolan. "I envisioned a row of screens running from a central computer, each with a coin slot. Then we looked around us at this million dollar computer and thought, 'Mmm, we've got a long way to go...'"

It wouldn't be until the next decade that, as co-founder of Atari, Nolan would see his vision of aisles of arcade machines realised. For now, the prohibitive hardware costs – Nolan estimates even the



display screens cost $20,000 – meant his videogame dream would have to wait. He graduated in 1968 and joined Ampex, a prominent American electronics company and pioneer in audio and video technology.

"I'd worked at Ampex for about a year, and as an engineer you get all these trade magazines," explains Nolan. "There was an ad in there that alerted me to the Data General Nova computer. Up to then, minicomputers were like $40,000, and then this comes along for $4,000 and I'm like, 'Woah, this might be good enough!'"

Nolan eagerly sent away for the manuals to this breakthrough machine and began making paper designs for a *Spacewar!* setup with four screens running from a single computer. With four coin slots collecting quarters, he hoped it could earn enough to pay for the high initial hardware costs and become a viable proposition to sell, not to bars, but amusement parks. "I told everyone at Ampex I was working on a videogame," smiles Nolan, "and they all thought I was loony."

Well, not quite everyone. Ted Dabney had joined Ampex in 1961, working in the military products unit for six years before transferring to the Videofile division in Sunnyvale, California. "I shared an office with Nolan and he took me over to Stanford to look at *Spacewar!*," recalls Ted. "I thought it was great... if you had a big enough computer! I didn't know if he was mad or not but I thought it was something worth trying."

Ted and Nolan teamed up with programmer Larry Bryan, who had access to a PDP computer and was to be responsible for the coding, and they began calculating how many games they could run from one computer. "We concluded there was no way it was going to work. It just wasn't fast enough," notes Ted. "Plus Larry never got anywhere with the programming."

"The cycle time of the machines was simply too slow to support multiple screens," agrees Nolan. "Things like drawing the rocket ship

"I told everyone I was working on a videogame and they all thought I was loony"

NOLAN HAD THE LAST LAUGH, THOUGH...

still took a lot of computer time. We'd gone down from four, to three, to two screens. An electro-mechanical game cost around $900 and I thought we could charge a little more than that, but not $3,000 a screen! The economic proposition was gone..."

And so the quest to bring videogames into the arcades almost died with the Sixties. Then, at the start of the new decade, there came



» The iconic *Computer Space* flyer. Nolan: "The girl was a topless dancer at a bar called The Brass Rail. It was done by Dave Ralston. We always thought he had a little thing with her but we never knew for sure."





» Former Retro Gamer editor Martyn Carroll spotted this cabinet at E3 in 2004.

an epiphany. Ironically, a game called *Computer Space* only became a reality when one key component was removed – the computer.

"Nolan's a smart guy and he was dicking around with a TV set, adjusting the vertical and horizontal hold and seeing the picture move," says Ted. "He asked me why that happens. I explained it to him and he said: 'Could we use this?' I said: 'Well, we'd have to do it digitally because with analogue we wouldn't have any control.' I explained we'd need a counter for the sync and one for the video and let the video counter change in respect to the sync counter. He said: 'Could we do that?' I didn't know yet..."

By replacing the expensive computer with circuitry built from cheap electronic components that could display and manipulate images on a standard television screen, the project was suddenly back in business. There was just one problem: the circuitry didn't exist. So, in 1970, Ted moved his daughter out of her bedroom and converted it into a workshop, where he began tinkering with an old telly and off-the-shelf components bought from electronics stores.

"I started by figuring out how to move something on the screen. It took me quite a while but finally I got these counters to do what I wanted them to, so you could change them by one bit and get very slow movement of a little square on the screen or by two bits and get faster movement. The next thing was, well, what are you gonna move? Nolan said: 'We need a rocket ship!'"

The ship you command in your quest to outgun flying saucers intent on your destruction was fashioned from a series of dots, forming the outline of your craft. Each dot you saw on screen corresponded to a discrete diode on a circuit board inside the machine. These were arranged in a matrix, one for each direction the rocket ship could face. "What Nolan did was pretty smart," chuckles Ted. "He created the diode matrix and just before it went into production, he laid it out on the board in the shape of the actual rocket ship, so if you had a problem, you could easily figure out what part wasn't working properly."

"Rotating the rocket was tricky," adds Nolan, "but the eyeball is quite forgiving. The dots are changing position on a 16x16 matrix and the places you put the dots aren't quite right, but by having the separation of the dots, your eye kind of fudges it and says, 'Yeah, this is the same rocket ship...'"

Now, we all know that in space no one can hear you scream, but blasting alien scum wouldn't be half

> "I got a little square moving on the screen. Nolan said: 'Now we need a rocket ship!'"
>
> TED JOINS THE DOTS...



DEVELOPER HIGHLIGHTS

PONG (PICTURED)
SYSTEMS: ARCADE
YEAR: 1972

SPACE RACE
SYSTEM: ARCADE
YEAR: 1973

ISAAC ASIMOV PRESENTS SUPER QUIZ
SYSTEM: ARCADE (CHUCK E CHEESE EXCLUSIVE)
YEAR: 1979



BEND IT LIKE BUSHNELL

IF YOU'VE SEEN *Computer Space* in action, you'll notice that after launching a shot at those vicious saucers, you can 'bend' your bullet towards your intended target by rotating your ship. It's an ingenious feature, which later appeared on *Combat* for the VCS, though it emerges it was more a case of necessity. "The missile starts out from the front of the rocket ship, but when the ship moves, the front of the ship is in a different place on screen," explains Ted. "There was no way we could 'remember' a point on screen, so it had to move in relation to the front of the ship. Let's call it a guided missile!" Ted added in a clever feature to signify a successful hit, too. "I just inverted the video so the screen flashed white. It was a cheap, easy way to create the sense of an explosion." Ted also used this inversion technique to signal extended play and called it 'hyperspace', yet another debt that Atari's biggest hit, *Asteroids*, owes to its granddad...

as much fun if performed in silence. Cleverly using a 6V Zener diode, a voltage regulating device that just happened to give off pink noise as it did its job, Ted added a little amplifier and an integrator that charged up and decayed to fade the volume out. "I built the sound circuits and motion circuitry," he says, proudly. "Then Nolan made them into a game."

At this point, we're profoundly aware that we are talking about a game that, despite its huge historical importance, most of you have probably never played. Coming from a time before arcade machines used microprocessors, there is no 'code' for the usually helpful MAME to emulate, so unless you live near the Funspot arcade in New Hampshire, which has an actual machine in its classic games room, may we recommend the convenient 'simulator' found at **www.computerspacefan.com**, an excellent site that also catalogues the location of all surviving cabinets.

Once you've spent some time trying to blast those pesky saucers while dodging their bullets within a strict time limit, we think you'll notice several things. Although *Computer Space* is clearly inspired by *Spacewar!*, it is certainly no clone. It's a single-player game, for a start, and there's no central star exerting a gravitational pull either. We also think you'll be struck by the difficulty. Your ship is in perpetual motion, which may adhere to the laws of physics in outer space but proves rather inconvenient to *Asteroids* players, used to their ship slowing down and stopping if you leave off the thrust. This is further compounded by the deadly accuracy of your flying saucer foes. Why did Nolan seem intent on killing the first generation of videogame players with such regularity?

"The idea it was too hard never crossed my mind," he laughs. "All my friends loved it, but then all my friends were engineers. It wasn't until we put it into a beer bar and people were totally baffled that we thought maybe we've overshot our mark! As for making *Computer Space* a one-player game, the coin-op industry was based around solitary game players. I mean, Bally turned *Pong* down because it was two-player!"

With the game elements starting to come together, Nolan decided to present his idea to Nutting Associates. The California-based

» [Arcade] The starfield backdrop was created by a counter on the board that overflowed and plotted dots across the screen.



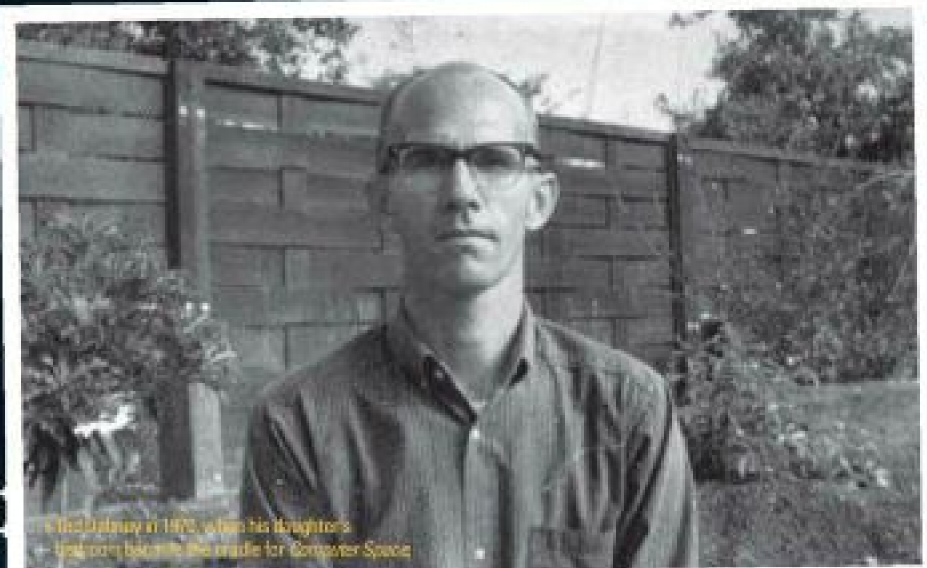
IN THE BEDROOM

SOME READERS MAY be aware of the ongoing dispute as to where the pioneering work on the *Computer Space* circuitry actually took place. For decades, it was thought that Nolan ousted his daughter from her bedroom to set up shop there but, more recently, Ted has gone on record as saying it all happened at his house. We asked Nolan to clear up the controversy. "The real answer is that it was in both," he explains. "Ted was doing his work and I was doing mine. Quite frankly, I had forgotten he was working in his daughter's bedroom as well. The blogs can get carried away. I fuelled it by saying once that I didn't think he even had a daughter. That was grist for the mill..."

Ted has a slightly different take on things. "My daughter Terri used to babysit for Nolan, so he knew I had a daughter, and his wife back then, Paula, would not let him do anything in that house. He didn't even own a soldering iron."

company had had considerable success in the coin-op industry with *Computer Quiz*, but with that product reaching the end of its commercial life, it was eager for new machines to manufacture. "I don't think they really understood what a videogame was, but they thought it sounded like a capital good idea," Nolan winks. "I'd only really got dots on the screen but I presented myself pretty well as an up-and-coming smart boffin – I was speaking British for you there – so they hired me as chief engineer. I left Ampex and was working for Nutting in the day, helping them finish up some projects, and at nights I was working with Ted on *Computer Space*. I specified in my contract I would retain rights to all the videogame technology, though."

The *Computer Space* circuitry had been coming together nicely, thanks to some assistance from an undergraduate on placement at Ampex by the name of Steve Bristow, and now that he had a position at a major player in the coin-op business, Nolan was



» Ted Dabney in 1970, when his daughter's bedroom became the cradle for *Computer Space*



understandably enthusiastic about his groundbreaking project to bring *Spacewar!* out of the computer lab and into the arcades. Then he received some startling news. Someone else had had just the same idea.

As a student at Stanford in the mid-Sixties, Bill Pitts had been

> **"When we put it in a bar, people were totally baffled"**
>
> NOLAN UNDERSTANDS THAT COMPUTER SPACE IS HARD ENOUGH WHEN YOU'RE SOBER

similarly entranced by *Spacewar!*. After graduating, he teamed up with school friend Hugh Tuck, whose hardware know-how and family money nicely complemented Bill's software skills. By the summer of 1971, their version of *Spacewar!*, entitled *Galaxy Game*, was almost ready to meet the public, when Nolan heard news of the project.

"I had some trepidation when I went over to see what they were doing," acknowledges Nolan, "but I had this suspicion that no one would have worked out how to do it as cheaply as I had. They had one in the coffee shop at Stanford, using a PDP-10, I think. I thought they'd done a great rendition of *Spacewar!*, but I did a quick costing and thought, 'This is no competition.'"

Nolan was right on both counts. *Galaxy Game* was far more faithful to the source material, but due to basing their machine around an actual computer rather than custom circuitry, it was hugely more expensive at around $20,000 in total and considerably more unreliable. Though it could never hope to recoup its cost in quarters,

Galaxy Game beat *Computer Space* to market by two months, debuting in September 1971, and thus has the honour of being the first arcade videogame. That original machine was replaced by a superior version the following year, utilising a PDP-11 that supported two play screens simultaneously, which remained in situ at Stanford's Tresidder Memorial Union throughout the Seventies. For more on this innovative oddity, see chapter two of *Replay*, Tristan Donovan's wonderfully readable history of videogames, or visit the machine itself in its new home at the Computer History Museum in Mountain View, California.

Undeterred, even encouraged by the appearance of this unexpected rival, Nolan pressed on, with Ted joining him at Nutting and proceeding to build a prototype cabinet ready for field-testing. The game debuted at the Dutch Goose bar in Menlo Park, California, in November 1971, with both proud parents accompanying their baby.

"Ted and I took it over in the back of my station wagon, and as soon as we plugged it in, there was an immediate cluster around the machine and play after play," enthuses Nolan. "We were convinced we had a major hit on our hands. But you see, the bar was a hangout for Stanford students, all smart as hell. Lots of engineers and maths and physics majors. Newton's second law wasn't a big problem for them! We put it in another few places and you could best describe the clientele as bimodal. They had no clue about what was going on. They'd say: 'I can't control this thing. How do you make it go right and left?' I remember trying to teach people about the thrust control and it just wasn't part of their DNA."

Worse still, the less cerebral crowd seemed to have taken their frustration out on the machine. The prototype cabinet featured a joystick-cum-trigger controller, which snapped after a single day out in the field. For the version put into production, four buttons were used instead – rotate left, rotate right, thrust and fire – which may have bemused tipsy punters but was at least able to physically withstand their drunken advances.

More pleasing to players was the stylish cabinet the game sat within. "Form follows function," states Nolan. "This was a space game and so should have a space age cabinet. I made a model from Plasticine. I had a little bit of plastic for the screen and a piece of wood for the back, and moulded it to that shape. Ted found a fibreglass guy who figured out how to make it into the cabinet. I sent my model to the manufacturer and they scaled it up."

Fortunately, this didn't result in a Spinal Tap Stonehenge-style fiasco, and around 1,500 – although Nolan



» [Arcade] Controlling your ship can take some getting used to, thanks to authentic outer space physics.






» Nolan poses with a surviving *Computer Space* cabinet, of which less than 100 are accounted for.

thinks the figure may have been as high as 2,200 – of the futuristic-looking *Computer Space* machines were manufactured.

And the game flopped. Well, that's what the received wisdom seems to conclude. We wish to challenge this notion. The sales figures may have been dwarfed by future hits like *Pong* and *Asteroids* – which, you could argue, was a spiritual successor – but at the start of the Seventies, a successful pinball table would only sell around 2,000 units. It provided an income stream for Nolan and Ted, which helped to fund the *Pong* project. Indeed, when the very first *Pong* prototype was placed in Andy Capp's Tavern, it sat next to a *Computer Space* cabinet, convincing Nolan that, in gameplay terms, simplicity was the key to success. It was a philosophy that he and Ted would adhere to when they left Nutting and formed Atari the following year, thus kick-starting the whole videogames industry.

“I'm treated like a rock star. It's been 40 years coming and I love it!”

TED DABNEY IS LIVING PROOF THAT GOOD THINGS COME TO THOSE WHO WAIT IN THE GAMES INDUSTRY



"I felt this was a medium, not just a product," says Nolan. "Remember, there were more games on the computers at university than *Spacewar!*. I'd done a game called *Fox And Geese*, there was a baseball game… people were programming! I was very happy with *Computer Space*. When you create something with your hands as well as your mind, it has a special place in your heart."

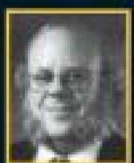
While Nolan went on to gain fame and fortune with Atari, Ted left the company in 1973, after an acrimonious falling out with his former friend. His crucial role in those early days of the games industry went unacknowledged for years, but recently, due to the efforts of games historian and author Leonard Herman, among others, the situation is changing.

"I don't give a diddly-squat about games," laughs Ted, "but getting this recognition is fantastic. I'm treated like a rock star. It's been 40 years coming and I love it!"

Thanks to Marty Goldberg and Jerry Jessop for their help with this article.

Space Men

We talk to three industry legends about their connection to Computer Space



STEVE BRISTOW

had several placements at Ampex while studying at the University of California at Berkley in the late Sixties and early Seventies. He later followed Nolan to Nutting Associates and worked on the two-player version of *Computer Space*, before moving to Atari, where he stayed until 1984.

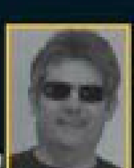
"Nolan was my supervisor at Ampex and he had me working on some prototype circuits, which turned out to be portions of the memory and motion controller boards for *Computer Space*. I saw the schematics for the game in the office he shared with Ted and I saw pieces of the prototype in a more assembled form when I visited them at Nutting. I first saw the production version when I started working at Nutting in March of '72. Production was just starting in earnest and I was the only person who troubleshot and fixed the boards. Of course I told people what I was doing and how cool it was! I was responsible for assembling and maintaining the two-player version at the AMOA show in Chicago in November '72. After that, I returned to school and took over the 40 or so coin-operated games that Syzygy/Atari had placed all over Berkeley and Oakland. I had two *Computer Space* machines and one was in Larry Blake's, a bar at UC Berkeley, near a *Galaxy Game*, and I'm sure we out-earned it. The coin box was never overflowing, but, in fairness, it was a one-gallon paint can, which could hold a lot more than the *Pong* prototype!"



AL ALCORN

was a colleague of Nolan and Ted's at Ampex and was one of Atari's first employees. He created *Pong*, which became the first major hit for coin-op videogames. He stayed with Atari into the Eighties, working on such successes as the home *Pong* and the VCS.

"I first saw *Computer Space* when Nolan and Ted invited some of their Ampex friends over to Nutting. I thought it was an interesting machine but didn't expect it to be a great success. When I came to work on *Pong*, Nolan gave me a set of schematics for *Computer Space*, but I really didn't use them, as they were drawn in a style that made it difficult to understand. We discussed the fundamentals of his patented motion circuit and I went from there. Remember, Nolan told me *Pong* was going to be a home game, so it had to use far fewer chips than *Computer Space*! I remember Nolan and Ted talking about one of the first locations for a *Computer Space* machine at a mall. The machine had a prototype joystick and it was destroyed in a day. They gave up and went with buttons. I never actually serviced a *Computer Space* – Steve Bristow has more experience with that – but I do recall servicing a *Pong* cabinet at the Stanford student union and competing with a *Galaxy Game* by Bill Pitts. I would be scooping quarters out of our game while Bill was struggling with his."



ARCHER MACLEAN

has been in the games industry for over 30 years, creating such home computer hits as *Dropzone*, *IK+* and *Jimmy White's Whirlwind Snooker*. He also restores arcade cabinets and, among his large collection of pristine machines, is a beautiful blue *Computer Space*.

"I was hunting for a *Computer Space* for ages, and eventually one came up on eBay about 12 years ago. It was a bit dead and had a large foot sized 'kick' hole on the lower front. This didn't put me off as I believed I had the electronics skills to sort the PCB out and my mate John is an expert at candy-apple sparkly paint sprays on Sixties-style fibreglass beach buggies! When it arrived, it had an aged-looking two-page typed note lying in the bottom, which basically said, 'Any problems, call Nolan direct on (415) 961-9373'. I think he's gone a few places since then! Amazingly, it's been 100 per cent reliable since getting it working in 2001. The screen is an ancient valve-based TV, which takes a minute to 'glow' into life, and the chips used on the PCBs are Jurassic-era ECLs and TTLs. Most of them have had their ID chemically removed to prevent cloning back in the day. Once it was restored, it has been in great demand from museums and television companies. The best was when it was used for the actual film presentation at the 2009 BAFTA Fellowship award given to Mr Bushnell himself, nearly 40 years after he designed it."

THE UNCONVERTED

Arcade games that never made it home





IN DEPTH

» *The Ninja Kids* does nothing atypical of Nineties scrolling beat-'em-ups, unless, of course, you count ninja puppets fighting devil worshippers.

» The enemies you face are a pretty random bunch. On a first play you honestly couldn't guess what you'll be facing next. Two seconds ago it was Rastafarians.

» Upon collection of a spell scroll, each character can then perform a special ninjutsu attack. They're all based on the four classical elements.

THE NINJA KIDS

■ **Developer:** Taito ■ **Year:** 1991 ■ **Genre:** Beat-'em-up

■ **This unusual but surprisingly well-crafted title from Taito has become famous for its ludicrous story above all else, which finds a quartet of ninja marionettes trying to stop a cult of devil worshippers from resurrecting Satan.**

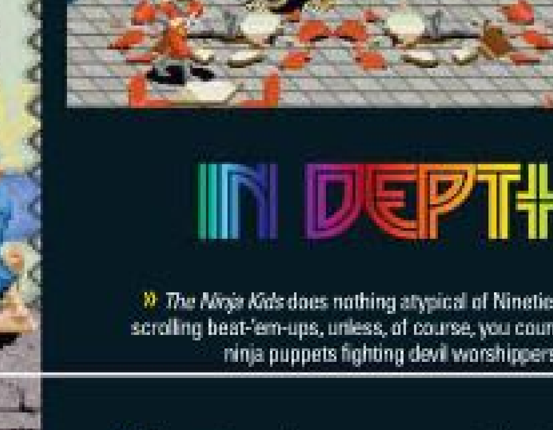
Clearly trying to capitalise on the mania generated by a certain band of pizza-eating reptiles, but then adding an unusual dollop of Satanism and puppetry for reasons unclear, *The Ninja Kids* was typical of ten-a-penny scrolling beat-'em-ups of the Nineties.

The four ninja puppets each have their own unique weapon, as well as a series of ninjutsu spells, which are unimaginatively linked to earth, wind, fire and water. The fight mechanics are equally clear and straightforward. You only have two action buttons to worry about: one actuates an attack and the other a jump. Hitting jump and then quickly following it up with an attack causes your ninja to perform an aerial attack, while pressing both simultaneously, if you've picked up a spell scroll, initiates your character's signature attack, the animation of which seems to change at random points in the game. Finally, double-tapping in any direction causes your character to perform either a handy vertical evasive dash or a horizontal slash attack. And that's pretty much the fundamentals of play covered right there.

As we touched on earlier, the premise is less sane. Some of the bizarre enemies you face include Rastafarian hippies, sheet-wearing devil worshippers with bunny ears, a fast food manager who turns into a werewolf, rotund businessmen, a firebomb-lobbing Iraqi warlord, a posse of hunchbacks, a man driving a Power Loader from *Aliens* and, of course, Satan himself.

Though at points feeling like a parody of the genre, *The Ninja Kids* is actually quite playable. Its uncomplicated nature, whimsical enemies and satisfying combat combine to make an entertaining brawler that is greater than the sum of its parts.

We suspect due to its strange themes, *The Ninja Kids* was never ported at the time of its release. It did eventually get a late home appearance, though, when it was included on *Taito Legends Volume 1*.



CONVERTED ALTERNATIVE

TEENAGE MUTANT NINJA TURTLES 1989

With its four heroes, ninja weapons and outlandish enemies, it's plain that Taito was motivated by capitalising on *Teenage Mutant Ninja Turtles* hysteria. Konami's smash hit arcade game was released on a surprisingly modest number of consoles and computers.

SPINAL BREAKERS

■ **Developer:** V-System ■ **Year:** 1990 ■ **Genre:** Run-and-gun



[Arcade] Using a machine gun on men wielding only swords is acceptable when they're possessed by demons.

■ ***Spinal Breakers*** **is** the videogame equivalent of the trashy action movies that filled video library shelves in the late Eighties. A third-person on-rails shooter very similar to *NAM-1975*, it sees you slowly strafing your way from left to right, dodging attacks while blowing away anything that moves. In fact, even stuff that doesn't, as drilling bullets into innocent corpses littering the levels rewards you with new weapons and waffles. Yep, you read that correctly: waffles. You see, *Spinal Breakers* has this peculiar fascination with the batter-based cake. Even the main character is called Captain Waffle. This preoccupation aside, keeping us from sticking *Spinal Breakers* in the 'best left' drawer is its hilarious story and imaginative creature designs. You appear to play a space marine who leaves his family to return to Earth and rescue the planet from a bizarre demon race called the Helldroids. The story doesn't mention it having any kind of time-travel component, but the enemies you face are a disparate mix of demonic soldiers, ninjas, samurai and mummies. There's even a stage set in prehistoric times, with demon-possessed cavemen and dinosaurs. It's all a bit bonkers. *Spinal Breakers* is a pretty average blaster but does hold a degree of entertainment value.

CONVERTED ALTERNATIVE

NAM-1975 1990

Released the same year, *NAM-1975* and *Spinal Breakers* could almost have been separated at birth. Well… almost. One of the earliest MVS releases by SNK, *NAM-1975* was released on the AES and Neo Geo CD standards and is reasonably cheap to pick up today.



CONVERTED ALTERNATIVE

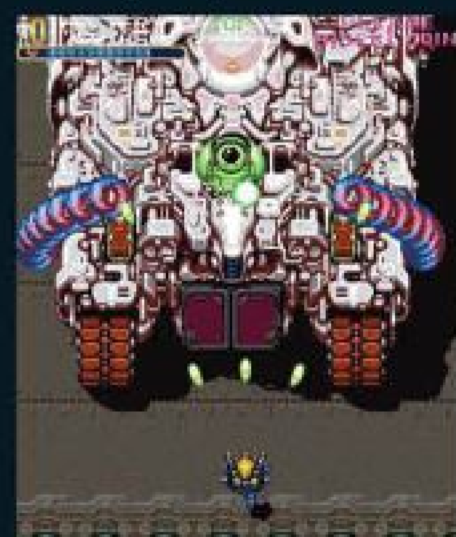
VICTORY ROAD 1986

Out Zone may not feature rotary controls – that would have made its challenge far easier to stomach – but this odd sequel to *Ikari Warriors*, which saw Paul and Vince launched into the distant future to fight alien foes, certainly has parallels with it.



OUT ZONE

■ **Developer:** Toaplan ■ **Year:** 1990 ■ **Genre:** Run-and-gun



[Arcade] Nobody ever told the soldier not to bring a gun to a 50-foot tank fight.

■ **From cult shooter** stalwart Toaplan, *Out Zone* is a frenetic vertical on-foot shooter in the vein of *Commando* and *Ikari Warriors* that sees you play the role of a cyborg marine whose job it is to wipe out a malevolent alien race. The last stand will take place at the titular Out Zone, an outpost divided up into seven lengthy stages, teeming with powerful enemies and bookended by some impressive bosses.

Out Zone is one tough cookie, and what makes it so challenging is the fact that you can only take one hit, and you also have a depleting energy bar that has to be continually fed with pick-ups. Making matters worse, players are mostly limited to just two weapon types – a three-way spread shot that can only be fired up the screen and a shot that fires in the direction you're moving – and to get anywhere fast the best tactic is to repeatedly change between them. Levels feature annoying craters to fall into, enemies are many and mighty, and bosses can be gruelling. Yet despite this, *Out Zone* has that 'one more go' quality.

BEST LEFT IN THE ARCADE

LADY MASTER OF KUNG FU

■ **Developer:** Taito ■ **Year:** 1985 ■ **Genre:** Beat-'em-up

■ **This smacks of** an ill-conceived attempt by Taito at trying to make its own version of the Irem classic *Kung-Fu Master* – only designed to appeal to female gamers and pervy old men. The plot isn't entirely clear, but when we played it we imagined that we were playing an aggressive masseuse who has to fight her way around the various floors of a love hotel. She must enter open rooms and beat up the kinky clients waiting for her arrival inside and, when done, they will either leave her a nice can of energy drink or a scroll with a letter on it for her services. Once each letter on a floor is collected, you can then enter through a large door on the top floor, where you get to fight a final boss-type character. All the bosses follow the same ridiculous attack pattern so are pretty easy to thwart, and the controls and combat are fiddly. Ultimately it's a fairly tedious game, even when applying our frankly ridiculous masseuse scenario to it.





FROM THE ARCHIVES

WE DIG UP THE FILES OF THE CLASSIC COMPANIES OF OLD

Atari Inc Part 1

Formed by two engineers, Atari rose to define the early games industry. However, its rapid expansion hid the looming threat of bankruptcy that defined its early days, right through to the corporate overindulgence and personality clashes that oversaw its ultimate downfall

Atari's origins go back to Ampex and a little-remembered division called Videofile. A document storage and retrieval system that used videotape and television displays to search for and reproduce documents, it was capable of recalling a full page out of the phone book and printing it accurately. An analogue engineer by the name of Ted Dabney had been working in the 'Input/Output' group at Videofile, responsible for the cameras and printers used to record and later print out documents, when he found himself with a new office mate. Just out of college, the young Nolan Bushnell had moved out to California from Utah after getting an entry-level job at Ampex.

Skill and personality-wise the two couldn't have been more different. According to their boss, Ed DeBenedeti: "Nolan was the dreamer and Ted was the plodder. Ted's engineering work and ideas were conservative perhaps in the extreme. Nolan and later interns Al [Alcorn] and Steve [Bristow] were brilliant, inexperienced enough that they had no idea of what one could not do."

In a sense, Ted's experienced approach to engineering would serve well to give Nolan's inexperience and forward-looking manner a solid foundation as the two embarked on a side project together. Already enjoying daily games of Go in the office on Ted's custom-built board, Nolan talked about wanting to pursue bringing computer games to the arcade environment. Tapping the more experienced Ted, he began partnering with him on trying to make the dream a reality. According to Ted: "He took me off to Stanford to see [*Spacewar!*] so I could help him come up with ways to do such a thing."

The original plan was to bring the experience direct to the arcade via a PDP or comparable minicomputer, and a third partner with programming experience, Larry Bryan, was brought in to that end. It turned out to be a short partnership, however, when this approach was quickly found to be cost prohibitive, but they did get a name for their engineering group out of it – Syzygy Engineering. If this plan for an electronic arcade game worked out, the two planned to have Syzygy be a contract-engineering firm for the arcade industry.

When it was decided to move to a non-general purpose format – or 'state machine', where the game is comprised of zero code but rather hardwired through chip logic – it became Ted's turn to do the heavy lifting. He designed all the circuitry to put a spot on a modified television screen and move it around, and Nolan shopped it around for someone who may be interested in funding the development of a final product, as well as manufacturing and distribution. Finding closed doors everywhere he looked, and little interest in the arcade industry mecca of Chicago, he finally found a coin-op company locally that was interested. Nutting Associates had previous successes with electro-mechanical games such as

INSTANT EXPERT

Atari Inc was founded on 28 June 1972 but technically began in 1969 as a partnership between Nolan Bushnell and Ted Dabney called Syzygy Engineering.

Atari's first arcade game was *Pong* in 1972. Its first consumer product was a home version of *Pong* for Sears in 1975.

The Video Computer System (VCS), better known as the Atari 2600, began its life in August of 1976 and was released on 14 October 1977.

Warner Communications bought Atari in 1976 for an estimated $32 million. It gave away half of it in 1984 for no money – just promissory stock.

Atari's top game properties are *Pong*, *Breakout*, *Asteroids*, *Centipede*, *Battlezone*, *Missile Command* and *Tempest*.

Atari affected the popular culture of the early Eighties to such a degree that it became synonymous with high technology. It even affected US politics, as the term 'Atari Democrat' was created to describe Democrats who supported the development of high-tech industries to stimulate the US economy of the time.



"He definitely had no ideas about TV games of any sort"

TED DABNEY ON NOLAN'S VISION WHEN THEY STARTED WORKING TOGETHER



Computer Quiz and saw the potential of this new format. Hiring Nolan as lead engineer to finish adapting Ted's work into a game while performing other duties at the company, Nutting became the future of the industry for a short time.

Having talked Ted into leaving Ampex and joining him at Nutting, by the end of development Nolan was itching to have more input on the business side of things. The two left Nutting by the spring of 1972 and decided to make Syzygy Engineering their main source of income. Funding the startup with money from Nutting's purchase of *Computer Space*, and subsidising daily operations with a coin route, Nolan looked to get their first contract. Their first client was Bally, which contracted them to produce pinball playfields and, more importantly, an electronic driving game. Nolan hired former Ampex intern Al Alcorn to work on the proposed game, and allowed him to get acclimated to their video circuitry from *Computer Space*. Nolan had seen a demonstration of the first videogame console, the Magnavox Odyssey, that past May, and decided to have Al do an arcade version of its tennis game. By the time Al was done in August of 1972, Nolan was outvoted two to one to make Al's warm-up game, *Pong*, Syzygy's actual game for Bally.

It was during this time that Atari got its now-legendary name. When looking to formally incorporate Syzygy Engineering, it was found that several other companies were already using the name. Giving the clerk a list of names based on moves from Go, the clerk picked Atari, not knowing that he would be choosing the name of the company that would define electronic entertainment for years to come. On 27 June 1972, Atari Inc was officially born. Nolan and Ted decided to keep the Syzygy name for the engineering portion of their venture, and use Atari for their outward-facing business activities.

A surprise hit

After putting several test cabinets of *Pong* out into the wild – most notably one at Andy Capp's Tavern that sat right next to a *Computer Space* unit – a funny thing happened. *Pong* was a big success, drawing in far more money than the *Computer Space* machines were, to the extent that the Atari staff were afraid that when they reported back to Bally on how the test run was doing, Bally wouldn't believe them. Wary of this, they under-reported the earnings numbers, and Bally still thought they were exaggerating.

With Bally stalling on accepting the game and looking to possibly pass it off to its subsidiary, Midway Manufacturing, and Atari knowing how well the game was actually doing, Nolan, Ted and Al had a decision to make: either let *Pong* sit in limbo to maybe be rejected altogether, or look to go into manufacturing for themselves. They chose the latter, and Ted concocted a plan that ▶

BY THE NUMBERS

$40 million The amount of profit generated by Atari as its golden age began in 1977, the year it released the hugely successful Atari 2600.

$539 million The amount it lost in 1983, as the industry's crash was under way.

2 The number of competitors Atari had in video arcade games in 1972.

25 The number of competitors by 1974.

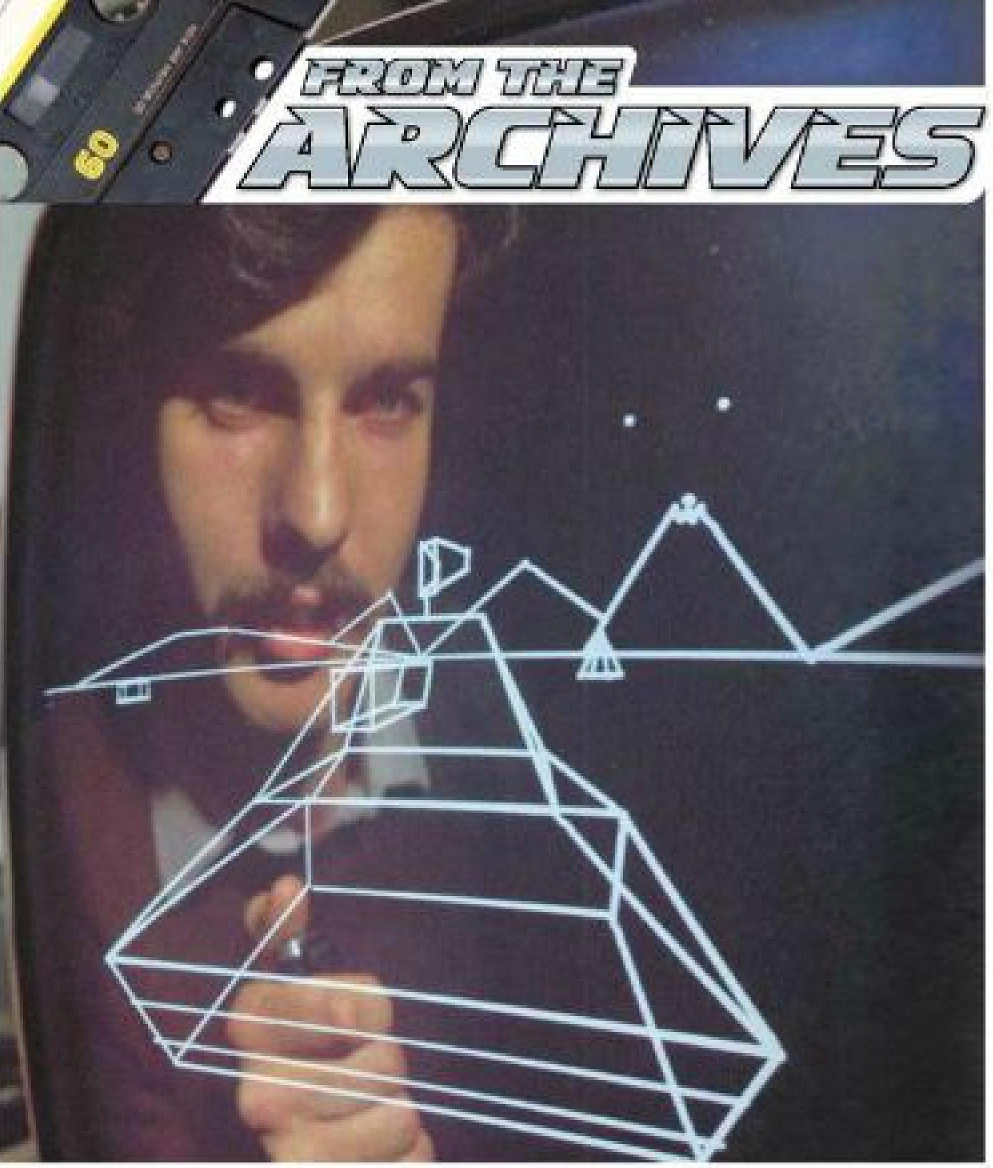
$98.95 The cost of Atari's first home console, *Pong*, in 1975.

$189 The cost of the Atari 2600 at launch.

1 The number of manufacturers making games for the Atari 2600 at its 1977 release. Of course, it was just Atari itself, although third-parties would quickly appear.

145 The number of manufacturers making games for the 2600 worldwide at the time of the crash.

5,000 The number of shares allegedly sold by Ray Kassar based on insider knowledge of Atari's performance.



TIMELINE

- **1969** — SYZYGY PARTNERSHIP FORMED
- **1971** — *COMPUTER SPACE* RELEASED BY NUTTING ASSOCIATES
- **1972** — ATARI INC FORMED. BOARD OF DIRECTORS ARE NOLAN K BUSHNELL, S FRED DABNEY (TED DABNEY), AND THEIR WIVES PAULA N BUSHNELL AND JOAN M DABNEY
- **1972** — THE FIRST TEN PRODUCTION *PONG* UNITS SHIP
- **1973** — TED DABNEY FORCED TO QUIT, BUT REMAINS ON THE BOARD. ATARI BEGINS RELATIONSHIP WITH CYAN ENGINEERING
- **1973** — KEE GAMES IS FORMED AS A 'COMPETITOR', WHILE HAVING SEPARATE MANAGEMENT AND ENGINEERS. THEY SHARE THE SAME ASSEMBLY LINE
- **1974** — *GRAN TRAK 10* RELEASED. LAYOFFS ENSUE



▶ Nolan send a carefully crafted letter to Bally, suggesting that it officially reject *Pong* so that Atari could develop a new game for it. The letter worked, and Atari became a full design and manufacturing arcade company.

New horizons

From there the growth was explosive, with Nolan and Ted hiring people off the streets to fill the manufacturing needs, and Nolan hiring more engineers and management to help with the growth. Tension began to develop between Nolan and Ted on how the company should be running, however, and Nolan decided that there wasn't room for two heads – a fact that became obvious to Ted when Nolan hired someone to come in and help restructure the business and employee roles. When they asked Ted what he did at Atari, he knew his time was up; he was forced out of the company, with management firmly in Nolan's hands, as Atari began its 'Innovative Leisure' period.

By continuing to pump out new games based on sports themes while doing engineering research for an eventual move into the consumer market, Nolan looked to stay ahead of the game. As Al Alcorn relates: "Nolan didn't want to define us as the best coin-op game designer and manufacturer; instead he focused broadly on the entertainment business. We were creating new, disruptive products in the leisure industry. Nolan figured people would spend more money on what they want, not what they need." But things soon took their toll on the fledgling company.

Nolan had made some bad hiring decisions for the financial management portion of the company, and it soon needed to lay off employees. To make matters worse, it started facing intense competition from others entering the videogame market, including old industry hands like Bally and Chicago Coin, and new companies like Allied Leisure. Already competing for a spot at the well-established coin-op distribution table, Nolan came up with the idea to create a 'competitor' to increase the cash flow of the company. It would have its own building, exhibit on its own at the industry shows, and have its own purchasing, sales and engineering group, which would include another former Ampex intern, Steve Bristow, but all its manufacturing would be done on the Atari assembly line. This company, Kee Games, could clone Atari titles, allowing the company to sell them 'exclusively' to two distributors at once.

The wheels come off

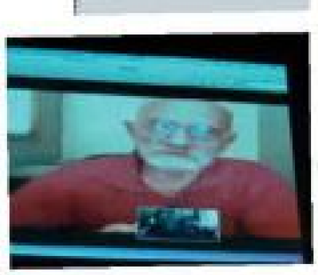
Financial disaster struck in the form of *Gran Trak 10*. The game was so badly engineered that they started coming back to Atari in droves, forcing Al Alcorn to come out of his sabbatical and redesign them, and forcing an even more lengthy delay to this already costly game. Then, on top of that, an accounting error set the selling price of each unit to $995, when it cost $1,095 to manufacture it in the first place. It resulted in pushing Atari even further towards bankruptcy, and the company ended up losing half a million dollars between 1973 and 1974. By the end of 1974, Atari began to fully merge Kee into its parent and offloaded its Japanese operation to Nakamura Manufacturing Co, better known as Namco.

Things started looking a bit better in 1975 as Kee's management entrenched itself at Atari. Kee president and Nolan's next door neighbour Joe Keenan became president of Atari; Gill Williams became VP of manufacturing, helping to smooth out issues there; and Kee's lead engineer, Steve Bristow, became VP of engineering. Along with Steve came top engineering talent and future stars like Lyle Rains, who, together with Steve, had created the blockbuster *Tank* at Kee. Several arcade classics would be released in 1975 that would go on to become more known for their Atari 2600 versions but served the ultimate goal of helping Atari get back on track: *Anti-Aircraft*, *Jet Fighter*, and the multiplayer *Indy 800*. The biggest development, though, was the fulfilment

WHERE ARE THEY NOW?



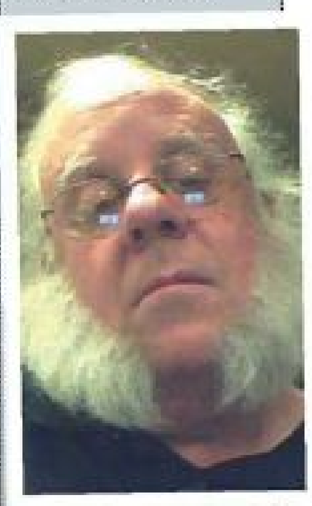
Nolan Bushnell
After leaving Atari, Nolan headed his Chuck E Cheese Pizza Time Theatre until facing bankruptcy. Funding several start-ups under Catalyst Technologies in the Eighties and briefly returning to video arcade games under Sente, he ran a string of entertainment companies including PlayNet and uWink, which eventually closed due to poor market performance. He is currently partnered in Anti-Aging Games and is an advisor to the current owner of the Atari brand, Atari SA (formerly Infogrames).



Ted Dabney
After leaving Atari Inc in 1973, Ted worked for arcade company Meadows for a time as well as several other non-arcade engineering jobs. He even briefly worked for his ex-partner again when he created the pizza number callout system for the early Chuck E Cheese, as well as the Chuck E Cheese-branded *Isaac Asimov Presents Super Quiz* arcade game in the late Seventies. He's currently enjoying retirement while reacting to the recent interest in his involvement in early videogame history with surprise, wonder and gracious interviews.



Al Alcorn
After leaving Atari Inc in 1983, he became an Apple Fellow in 1986 before moving through a string of engineering management positions at various entertainment companies in the Nineties and early 2000s. He's currently VP of engineering at uGetit, a mobile social gaming firm that combines gaming with 'social shopping'. Former Atari employee Roger Hector also joins him there.



Steve Bristow
Since leaving Atari in 1984 after more than a decade, Steve has worked as an engineer at various communications firms. He's currently employed at headset manufacturer Plantronics.

1974 – KEE GAMES RELEASES THE BLOCKBUSTER *TANK*

1975 – ATARI'S FIRST HOME CONSOLE, THE SEARS TELE-GAMES-BRANDED HOME PONG, IS RELEASED. ATARI SETS UP A PINBALL DIVISION

1976 – ATARI IS BOUGHT BY WARNER COMMUNICATIONS FOR ABOUT $28 MILLION, IN ADDITION TO THE FUNDING OF NOLAN'S VIDEOGAME/PIZZA PARLOUR IDEA, WHICH BECAME CHUCK E CHEESE. THE ARCADE GAME *NIGHT DRIVER* IS RELEASED

1977 – THE VIDEO COMPUTER SYSTEM (ATARI 2600) IS RELEASED

1978 – NOLAN BUSHNELL FORCED TO QUIT ATARI. TAKES CHUCK E CHEESE WITH HIM AND IS REPLACED BY RAY KASSAR

1979 – ATARI INTRODUCES ITS FIRST COMPUTERS, THE 400 AND 800, WHICH SHIP IN NOVEMBER AT THE SAME TIME *ASTEROIDS* IS RELEASED IN ARCADES. ATARI BEGINS ASKING RETAILERS TO BEGIN SELLING HOME VIDEOGAMES ALL YEAR ROUND

1980 – *SPACE INVADERS* IS RELEASED FOR THE 2600, THE SYSTEM'S FIRST MUST-HAVE GAME. LATER THAT YEAR ATARI RELEASES *MISSILE COMMAND* AND *BATTLEZONE* IN THE ARCADES

1982 – ATARI RELEASES THE ATARI 5200 AS WELL AS THE MUCH-MALIGNED *PAC-MAN* AND *E.T.* FOR THE 2600. ATARI HITS RECORD SALES OF $2 BILLION, BUT ALSO BEGINS ITS DECLINE

1983 – RAY KASSAR RESIGNS, AND IS REPLACED BY JIM MORGAN IN SEPTEMBER

1984 – ATARI INC IS SPLIT UP BY WARNER COMMUNICATIONS. ATARI'S CONSUMER DIVISION GOES TO JACK TRAMIEL, WHICH HE ROLLS INTO TRAMIEL TECHNOLOGY LTD AND RENAMES ATARI CORPORATION. WARNER MAINTAINS THE ARCADE DIVISION AND RENAMES IT ATARI GAMES CORPORATION

of Nolan's wish for Atari to enter the consumer arena.

Homecoming

Al Alcorn and several engineers had been working on bringing *Pong* to homes. The move to the consumer market meant shrinking the large logic-based arcade board to a small integrated circuit, for which a partnership with chip manufacturer Synertek and its IC designer Jay Miner was formed. The end result was a product that put Atari on the map in the consumer market when it released through Sears in time for Christmas 1975. The research and development firm Cyan was also busy during *Pong*'s home release, working on a microprocessor-based home console that had the potential to more than make up for the *Gran Trak 10* fiasco.

Still realising that it wasn't enough to completely save the company and expand operations like he wanted to, Nolan began looking for more investors in Atari, and eventually, an actual buyer. As 1976 began, the buyer appeared in the form of Warner Communications. Warner had been on a buying spree to expand its operations, and the acquisition of an expanding videogame firm like Atari fit nicely into its plans. The deal was signed in October 1976, officially making Atari a Warner subsidiary.

Under Warner, development of Atari's consumer line began to blossom, the most prolific aspect of which was Cyan's microprocessor-based game console. First codenamed Stella and then officially named the Video Computer System (CX-2600), it was released in 1977 and proved to be the path to true greatness for the company when it became an icon of the videogame industry in the early Eighties. It sold well that first season in 1977 but proved financially harmful to Atari the following year when manufacturing delays caused a shortage of the console for the 1978 Christmas season. As in the arcade industry years before, Atari was soon joined by competitors eating up the new console market – Bally with its Professional Arcade, Magnavox and Philips with the Odyssey², RCA with the Studio II, and programmable console pioneer Fairchild with its Channel F a year before Atari's console. Atari needed to separate the VCS from the pack.

Also contributing to Atari's familiar financial problems for 1978 were a lacklustre arcade line-up, such as *Sky Raider*, *Ultra Tank* and *Smokey Joe*. To make matters worse, there was tension between Nolan and Warner Communications. Nolan had been accused of being a lax CEO since the purchase, almost "checking out" of the much-needed daily running of the company, and by his own admission that was the case. Consequently, it left more room for Warner and its installed executives to flex their muscles, such as Raymond Kassar,



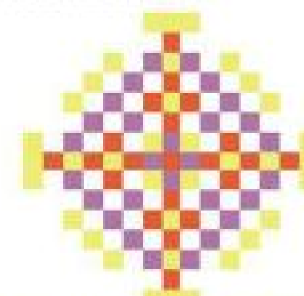
» Nolan Bushnell inspecting rows of *Pong* units ready to ship out in 1973.

“It was just business, nothing personal”

NOLAN BUSHNELL ON FORCING OUT ATARI CO-FOUNDER TED DABNEY

the head of the consumer division. It didn't help matters that Nolan began butting heads with Warner on issues like the future of the pinball division, or even the future of the VCS.

By the autumn of 1978, Nolan had crossed the line by trying to hold meetings in secret without Warner staff. Warner put Nolan out to pasture after a reorganisation plan and, like Ted years before, he was left with no recourse but to quit that December. Ray Kassar was now left in ▶

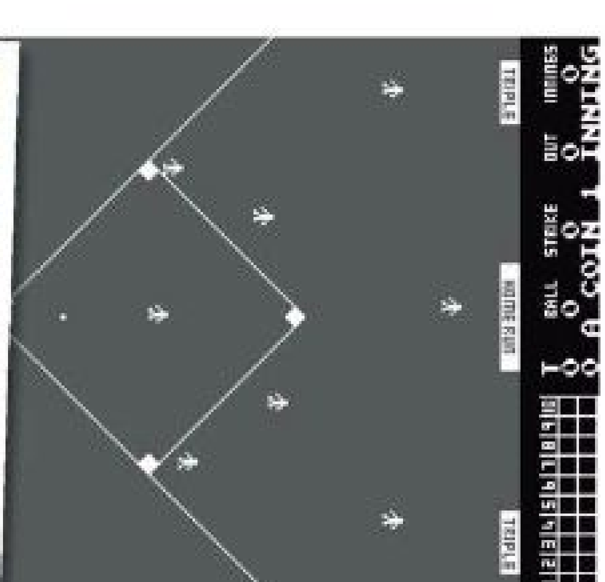


HOLOGAMES

As the electronic toys craze hit in the late Seventies and early Eighties, Atari had a brief foray into its own handheld electronic devices and board games under its new electronic games division. Starting in 1978, Atari released *Touch Me*, a handheld game based on its own arcade game of the same name, which competed with and lost against a game from Milton Bradley inspired by *Touch Me*, *Simon*. Atari planned to follow up with handheld games based on arcade properties like *Breakout* and the licensed *Space Invaders*, and even planned advanced tabletop hologram-based products like the Atari Cosmos and Atari Spector. Alas, it was never to be. By the early Eighties, the electronic games market was lagging in the US and Atari shut down the division. Atari not only lost some advanced games in the process, but it lost the company's third employee, Al Alcorn, who had been heading the Cosmos project and quit shortly after.



» Enjoying a round of *Battlezone* during its development are: (left to right) Lyle Rains, Dona Bailey, Ed Rotberg, Jeff Boscole and Owen Rubin (seated).



FROM THE ARCHIVES



» Two shirts designed by Dan Kramer for internal use at Atari to celebrate the release of his Atari 5200 Trak-Ball.

SIX OF THE BEST



Asteroids [1979]

The classic space shooter that influenced a generation, and it's still fun to play. While most will have to settle for playing this game on pixelated technology, nothing compares to playing in its original crisp vector monitor format.



Centipede [1980]

Another innovative game, *Centipede* improves on the bug theme initiated by *Galaxian*. Set in a dynamically changing garden playfield and complete with vibrant colour scheme, this top-down shooter proved a smash hit for Atari.



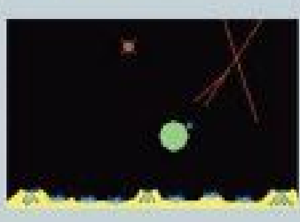
Warlords [1980]

Still one of the best multiplayer video arcade games of all time, its home port for the 2600 was just as fun and one of the only times you'll hook up four paddles. The arcade version includes a breathtaking 3D cut-out reflected backfield.



Tempest [1980]

Atari's first colour vector game, this fast-paced shooter that has you rotating around geometric shapes is again one that just looks best on a vector monitor. A capable home version wasn't released until *Tempest 2000* for the Jaguar.



Missile Command [1980]

Global thermonuclear war, Atari style. The home ports dumbed down the gameplay for use with a single joystick and button. Accordingly, Atari engineer Dan Kramer was inspired to design a home version of the arcade trackball.



Tank [1974]

A classic that many will never have a chance to play, as it's a discrete logic game that therefore cannot be emulated. It's satisfying using dual sticks to manoeuvre your tanks through a maze while you attempt to blast your opponent.

ONE TO AVOID



Slot Racers (2600) [1978]

This, Warren Robinett's warm-up game for the much more successful *Adventure*, is Atari on autopilot. While an original concept, it was done better in later coin-ops like *Spectar* and *Targ*. 2600 games are not known for their inspired graphics, but the cars don't even look like cars.



charge and began heading what many consider the golden age of the company, if not the entire Atari brand. Not without a little speed bump to start out with, though.

Under new management

Shortly after coming to the company, Ray had begun bumping heads with some of the Video Computer System programmers, calling them "high-strung prima donnas" in an off-the-record portion of an interview with the *San Jose Mercury News* that ended up getting published. A meeting designed to be a pep talk in early 1979 proved to be the last straw for some, as he managed to alienate even more.

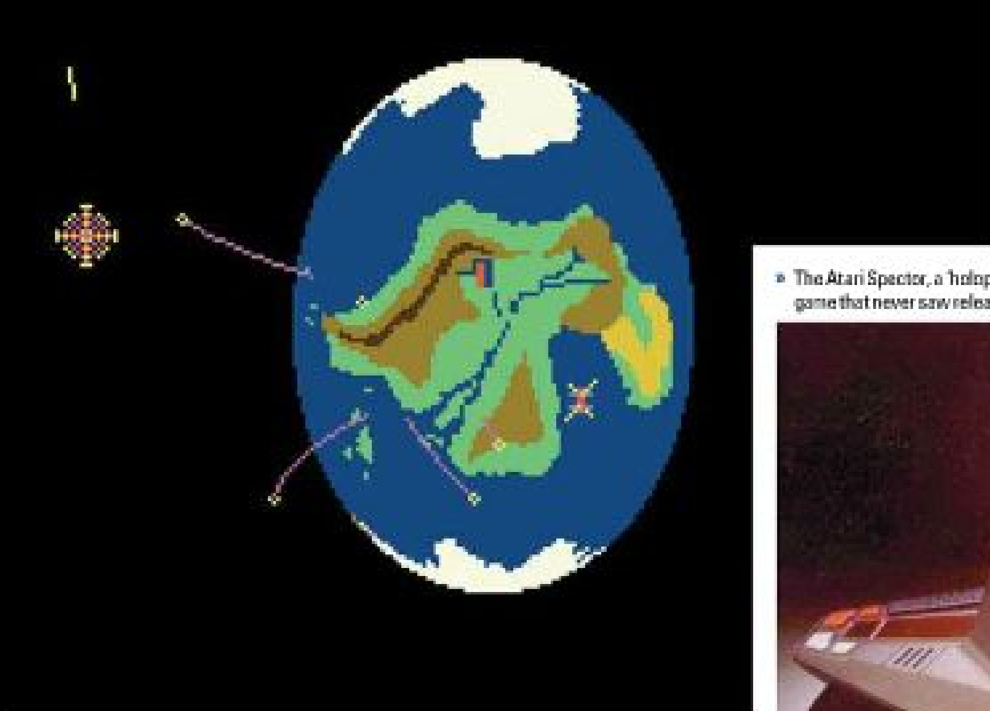
VCS and Atari 400/800 engineer Joe Decuir related: "Ray called a meeting of the entire engineering team, coin-op and consumer – a bit of 'blah blah', and then he started talking about what we were going to do. He was excited about the [400 and 800] computer. He said we were going to sell them in designer colours so that women would buy them, and that we would also have home decorating software. A number of women I knew in engineering decided to resign because of this. One of the VCS programmers asked him how he was going to deal with the creative talent – the game designers. He said he knew about creative types from dealing with towel designers at Burlington Mills, his previous company. A core of programmers were disgusted, and formed Activision."

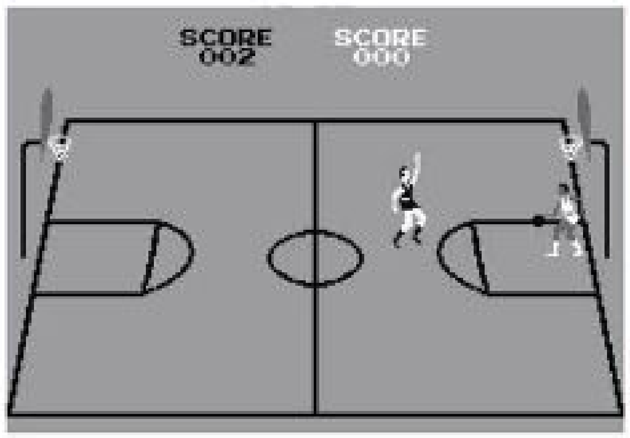
Fortunately, much of the coin-op talent stayed on to thrust Atari to the front just as the market began exploding thanks to Taito's *Space Invaders*. A string of now-iconic hits were released from 1979 onwards, including *Asteroids*, *Battlezone*, *Centipede* and more. The consumer division and its Video Computer System rode the wave in 1980 after a timely licensing of *Space Invaders* for the console came to fruition. Giving the lagging console its killer app, it was soon joined by an expanding third-party market thanks to Activision, and sales really took off.

The catalyst for Atari's golden age was Warner Communications itself. As a powerhouse media company, it began leveraging its wide net of subsidiaries to add to Atari's public presence in the videogame craze of the early Eighties that it dominated. What many now take for granted or attribute to Nintendo during its Famicom/NES heyday was actually pioneered by Warner during this period. Atari-themed magazines, movie placements, toys, clothing, party favours, costumes, jewellery, storybooks, big budget cinematic commercials, collectables and more built the brand into a commercial juggernaut.

By 1982, Atari had become Warner Communications' golden goose. Comprising 80 per cent of the videogame industry, Atari was doing slightly over $2 billion in sales and producing more than half of Warner's $4 billion in revenues, and over 65 per cen of its profits. Warner saw only continued growth, and did what it could to force what should have been considered unmanageable growth, if not a bubble waiting to burst. This included frequent second-guessing of Atari management, creating a dual management. Money-losing deals such as the now-legendary *E.T.* tie-in were forced on Atari, and a string of ongoing projects that would have put the company far ahead in both consoles and computers were cancelled in favour of more incremental advancements like the Atari 5200 console and the XL series of computers. Not that some of Atari's management, such as Ray Kassar, weren't enjoying their perks; Learjets, limousines, yachts and luxury office remodelling were all on the menu.

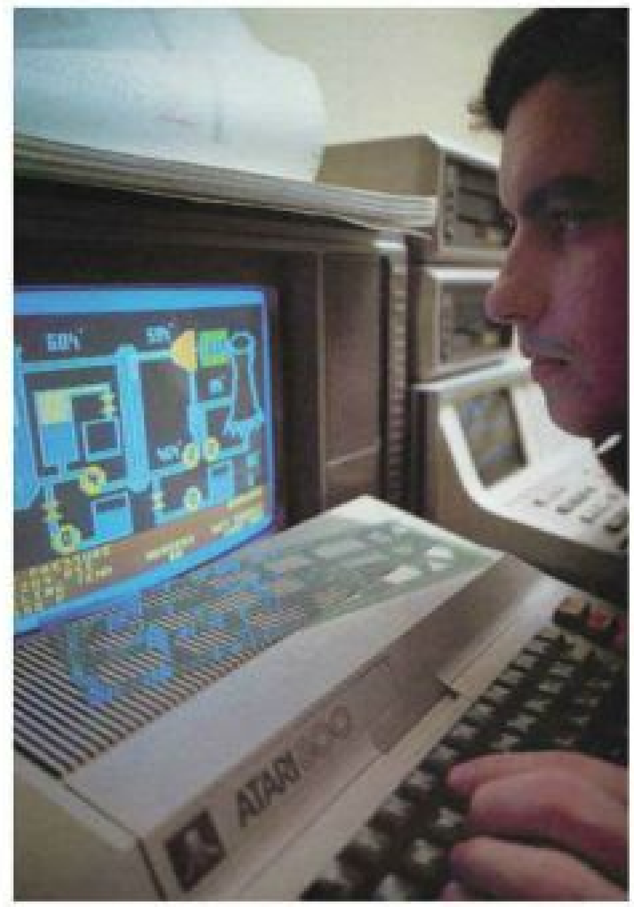
The signs of the end for the company were beginning as it enjoyed its record profits that year. By August of 1982, warehouses around the US began piling up with unsold inventory thanks to the glut of competing consoles on the market. As Gordon Crawford, a representative of the investment group that brokered the original sale of Atari to Warner related: "At the January '82 Consumer Electronics Show there were three or four new video hardware systems and about 50 new software systems – all the warning lights went on for me. Then, at the June CES, it was worse! There were about 200 software systems. This was a business where the year before it had been







» The Atari Spector, a 'holoptic' tabletop game that never saw release.



essentially a monopoly, and now there were literally hundreds of new entrants."

Warner and Atari management became partners in a cover-up of how Atari was starting to suffer. Producing artificial reports and a trumped-up projection of earnings for the final part of 1982, members in both management groups began selling off shares to insulate themselves. The most notorious example was Ray Kassar himself, who did so shortly before the December 1982 announcement that earnings were far short of the previously announced projection. It eventually led to him being forced from his position at Atari by that summer, but the damage was already done to the industry.

The bubble bursts

Shock waves spread as investors began to question the viability of the entire videogame industry, and stock prices plummeted. Layoffs began at Atari that January, and throughout the rest of 1983 and 1984 many of these new competitors that Crawford had witnessed began closing. The videogame market crash had begun.

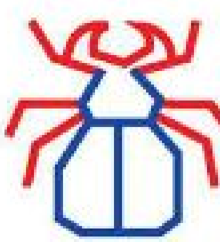
Atari tried to minimise its losses by starting up advanced research divisions in computing and graphics, as well as expanding its areas of consumer reach in markets like next-generation medical devices and telephone research. By September of 1983, Warner brought in James Morgan, VP of tobacco company Philip Morris, to replace Kassar and turn the company around. However, Warner began mounting heavier and heavier earnings and stock losses as Atari lost millions a day, and by winter of 1983 Warner itself was facing a hostile takeover by Australian publishing magnate Rupert Murdoch. In January of 1984, Warner brought in a firm to evaluate all its holdings and formulate a plan of action, and Atari was at the top of the list of subsidiaries that it was suggested to dump. The Murdoch takeover was averted that March after Warner bought out his stock, but the writing was already on the wall for Atari. Warner began looking for companies to buy it outright, but when it couldn't, Atari was split into pieces.

The consumer division and most of Atari's manufacturing and distribution capabilities were sold to Jack Tramiel in exchange for no money down and the taking on of most of Atari Inc's debt. Folding it into his Tramel Technologies Ltd (TTL), he renamed TTL to Atari Corporation and began a new chapter of the Atari brand in the consumer arena. The still-profitable coin division, responsible for Atari's arcade output, was initially kept and reformed as Atari Games, and soon after majority ownership was sold to Namco.

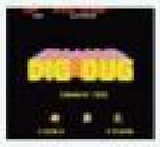
Much like a last-second swoop of the paddle in *Pong* to save you from your opponent scoring that winning point, the Atari brand was rescued from being completely wiped out in 1984 and would survive the crash. However, the drama, successes and failures were far from over…

To be continued…

Special thanks: Curt Vendel, Jerry Jessop, Ted Dabney, Allan Alcorn, Steve Bristow, Owen Rubin, the Smithsonian.



THE NAMCO CONNECTION



In 1974, due to mounting losses, Atari decided to sell its fledgling Japanese operation, run by Hideyuki Nakajima, to Namco. Hideyuki agreed to stay on and run Namco's new division, which would initially release licensed Atari games before moving on to producing its own. Thus started a long partnership between the two companies. By the early Eighties it was Atari that was licensing Namco games, and these were such big hits that many are frequently regarded as Atari-created titles today, such as *Dig Dug*, *Pole Position* and *Xevious*. By February 1985, Namco purchased the Atari arcade division, by then known as Atari Games. Hideyuki was sent to oversee all of Namco's US operations, and by 1987 had pooled his own money together with other Atari Games employees to buy the company from Namco and make it employee-owned. Shortly after the purchase he created Tengen to allow Atari Games to enter the home console market. In 1994, Hideyuki and the rest of the Atari Games staff sold their company back to Warner, then known as Time Warner. Sadly, Hideyuki's long association with the Atari brand would itself end later that year when he passed away on 11 June 1994 from lung cancer.



» In the early Eighties, special summer camps dedicated to personal computers started springing up, with parents sending their kids in the hopes of getting a head start in this new field. Atari ran several camps across the US, where kids could program their Atari 800 in between distractions like swimming and hiking.



FROM THE ARCHIVES

RETRO GAMER DIGS UP THE FILES OF THE CLASSIC COMPANIES OF OLD

Atari Corporation Part 2

Out of the ashes of Atari, Inc rose a new company, Atari Corporation, as well as a second chance for recently ousted Commodore founder Jack Tramiel. With highs and lows, unfortunately it would be the swan song of the Atari brand

Normally, coming back to work from a 4 July weekend in the US is a rather uneventful affair. It's an extra-long weekend, and employees are feeling refreshed after spending time with friends and family celebrating America's independence. This was even more apparent during 1984's celebrations, as the fourth fell on a Wednesday that year and many employees at Atari took off the two preceding days in order to have a five-day weekend. Those same employees found themselves coming back on the fifth to a company ripped in half.

Over that weekend, Warner Communications executives had conducted a series of secret negotiation meetings with former Commodore head Jack Tramiel for the purchase of Atari's consumer division as well as its distribution and manufacturing network. So secret that Atari's own CEO, James Morgan, had no idea until he was called into one of Atari's meeting rooms to sign the papers. Signing on the dotted line, the consumer division was given to Jack for no money down – just $240 million in long-term notes, and warrants for a 32 per cent interest in Tramiel's new company, Atari Corporation. Warner kept the coin division of Atari, Inc, and Morgan stayed on to oversee the company's further dissolution and its restructuring into the coin-driven Atari Games. Both companies would share Atari, Inc's game properties, with Jack's new company owning the trademarks and home rights. The Atari logo would be shared by both as well, under the stipulation that the coin company would have to include the word 'Games' under its logo. The ensuing transition was fast, furious and sloppy. No long period of board approval since it was just a portion of the company being sold, no time for employees to make transition plans, no time for the wrapping up of ongoing projects and business deals, no time for anything other than mass chaos.

Even Jack had no idea what he was physically getting in the deal, and proceeded to lock down buildings to begin a month-long process of inventory and project evaluations. At that time Atari had consisted of 70 buildings throughout Sunnyvale, Santa Clara, San Jose and Milpitas. The main Sunnyvale headquarters alone had around 35 buildings, whose functions were mixed enough that some of the consumer division's advanced research operations were housed in the coin division's headquarters, unbeknownst to Jack. At other buildings where much of the prototype, promo and project materials were kept, people started pulling up vans and U-Hauls to cart off items en masse. The company mainframe was no less susceptible, and many started deleting their work directories and emails in protest, hiding much of the recent work done under Atari, Inc from Jack and his people.

The projects and buildings weren't the only thing being appraised. Jack and his management team also had to evaluate all the employees that had been part of the consumer division to decide who they were going to take to the new company. Jack's son, Leonard, was tasked with leading

INSTANT EXPERT

Atari Corporation was formed from merging Atari, Inc's consumer division with Tramel Technologies Ltd. It was spelt 'Tramel' instead of 'Tramiel' so that people didn't mispronounce the name.

Jack Tramiel bought Atari's consumer division after being ousted from Commodore. It was purchased primarily for its manufacturing and distributing.

The Atari 520ST was Jack's answer to his fear of the Japanese entering and dominating the US computer market.

Atari Corporation re-released the 7800 after settling debts with the developer GCC. It was not in response to the release of Nintendo's NES.

The XEGS was meant to be the "5200 done right", also using Atari's 8-bit computer internals but making the console expandable to a full Atari computer with the addition of a keyboard.

The Atari Lynx was developed under software publisher Epyx as the Handy. Atari Corporation initially licensed it but received full ownership of the hardware after Epyx went bankrupt.

The Atari Portfolio was the world's first MS-DOS-compatible palmtop computer.



"Jack didn't plan to return unless he thought the Japanese were coming and Commodore couldn't beat them"

MICHAEL S TOMCZYK, FORMER ASSISTANT TO JACK TRAMIEL



the project and personnel evaluations. Those who passed joined the new Atari Corporation, and those who didn't were technically already out of a job with the collapse of Atari, Inc. "Our goal was to take what we had and turn it into a functional and profitable company before we ran out of money," said Leonard recently. "Hopefully long before. The need to act quickly was obvious for many reasons. It would save money and shorten the anxiety of not knowing. It was really awful; about 1,000 people lost their jobs in about one week."

One humorous tale did emerge from that time period, however, on a trek up to Atari, Inc's coin-op headquarters to interview prospective recruits. As Leonard and a colleague entered the building, an employee got on the PA system and warned, "Imperial troops have entered the building," as if Darth Vader himself were entering the rebel stronghold. "I wound up hiring him," recalls Leonard.

Jack was still in a precarious financial position, though. He had sunk millions of his own money into the new company to keep operations afloat during July and August while pursuing the mountain of debt owed to Atari, Inc that Warner had him take on, intending to collect it and use it to fund operations for the longer term. Only nobody was paying, and by August Jack was already struggling – a situation that continued into 1985 and resulted in several renegotiations and financial assistance from Warner. To make matters worse, Jack had also taken on most of Atari, Inc's bad debt as part of his deal, so Warner could get the losses off its books. Likewise, a number of expected money-making products had stayed with Warner, including the recently announced Atari 7800. Adding to the worries, it wasn't more than a few days after the negotiations that his old company, Commodore, fired a shot across his bow by filing injunctions against his new VP of R&D, Shiraz Shivji, and two other ex-Commodore engineers. They were accused of theft of trade secrets and barred from doing any computer work, effectively shutting down development of his planned new computer for the month of July.

Leonard found the means to strike back in the form of a cancelled cheque. Unbeknownst to them, Warner and Atari, Inc had struck up a deal with the very company that Jack had visited back in April: Amiga Corporation. While Shiraz and other engineers were locked up in a hotel room in April and May, planning out a new low-cost, high-power computer to unleash against the Japanese, Jack was visiting various companies along California's coast for possible new technology and facilities to leverage for the new computer. Amiga was one of several companies that Jack had brief flirtations with buying that ultimately ▶

BY THE NUMBERS

6 The number of consoles released under Atari Corporation: 2600 Jr, 5200 (re-release), 7800, XE Game System, Atari Lynx, Atari Jaguar.

2 The number of titles held by Sam Tramiel at once when he was both CEO and president of Atari Corporation.

3.77 million The number of Atari 7800s sold in the US between 1986 and 1990.

28 The number of Atari computer models released between 1985 and 1993.

51 The number of games released by Atari Corporation for the 7800.

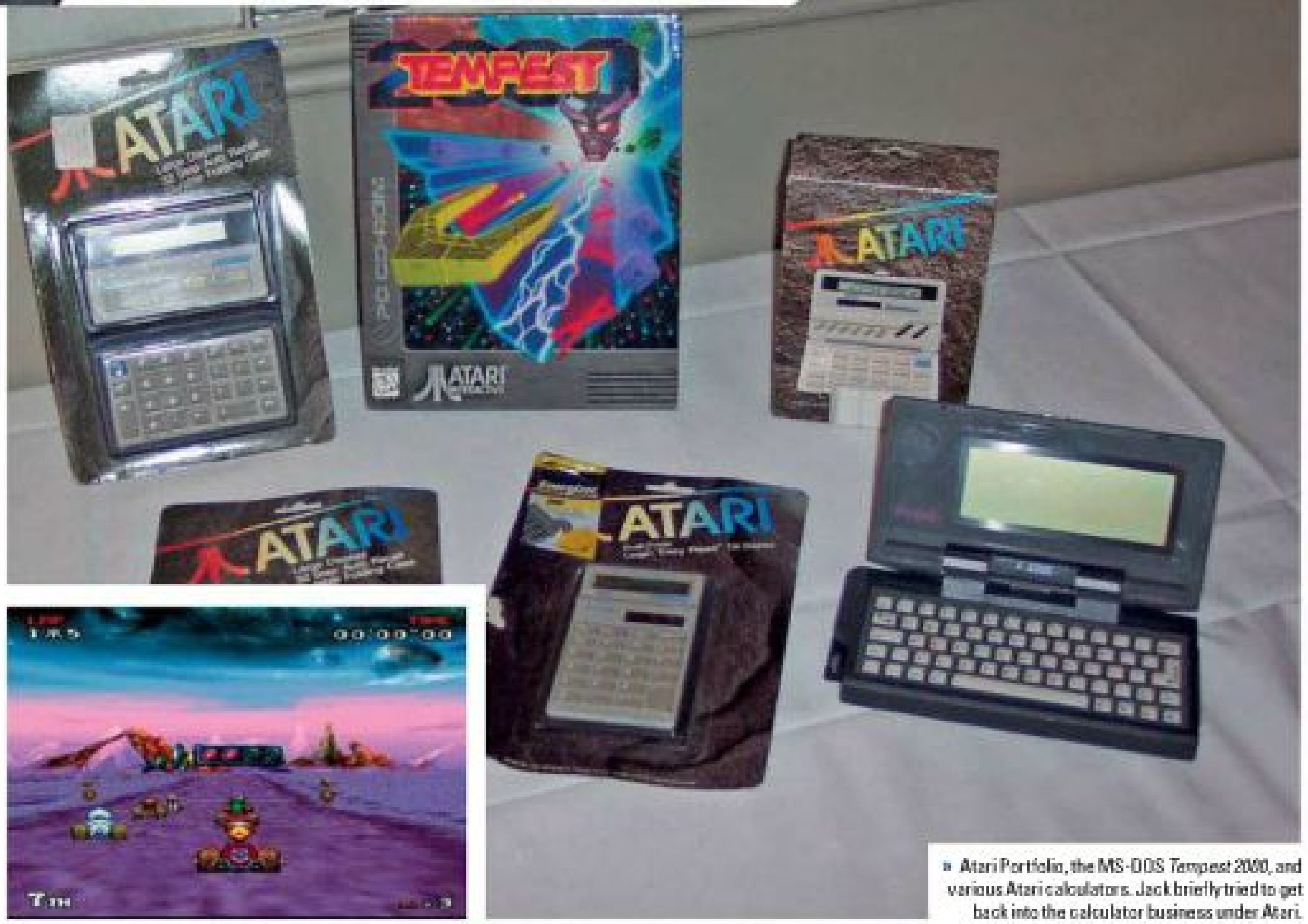
73 The number of games Atari released for the Lynx.

42 The number of games Atari released for the Jaguar.

250,000 The number of Jaguars manufactured.

125,000 The number of Jaguars actually sold between 1993 and 1995.

1 The number of employees left at the time of Atari Corporation's closure.



» Atari Portfolio, the MS-DOS *Tempest 2000*, and various Atari calculators. Jack briefly tried to get back into the calculator business under Atari.

TIMELINE

- **1984** JACK TRAMIEL RETURNS FROM A WORLD VACATION AND FORMS TRAMEL TECHNOLOGY LTD
- **1984** JACK BUYS ATARI, INC'S CONSUMER DIVISION FROM WARNER COMMUNICATIONS
- **1984** WIRE WRAPPING OF THE ST PROTOTYPE, RBP, COMMENCES. COMPLETED BY THE END OF AUGUST, OS DEVELOPMENT BEGINS IN SEPTEMBER

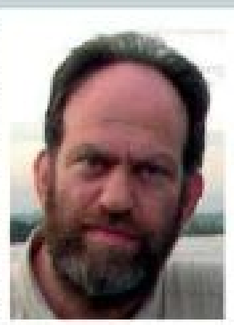
WHERE ARE THEY NOW?

Jack Tramiel
After retiring once JTS collapsed, Jack has spent most of his time out of the limelight. Save for a rare public appearance in 2007 in honour of the 25th anniversary of the Commodore 64, he spends his time enjoying his extended family and donating to places like the US Holocaust Memorial Museum. What computer does he still claim to use after all these years? A Commodore 64.



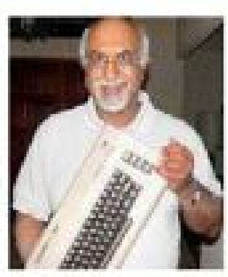
Sam Tramiel
Sam is currently involved in Tramiel Capital, Inc. TCI was founded by Sam in 1996, through which he holds real estate with other family members and makes investments in both high-tech and low-tech businesses, helping to fund a new generation of tech entrepreneurs.

Leonard Tramiel
After Atari Corporation closed down, Leonard went back to his



astrophysics roots and became an eighth-grade astronomy teacher. He's also volunteered at the Chabot Space & Science Center since. In 2010 Leonard became the co-ordinator for the Center For Inquiry San Francisco, where he promotes evidence-based inquiry into paranormal and fringe science claims, alternative medicine and mental health practices, religion, secular ethics and society.

Shiraz Shivji
After leaving Atari Corporation in 1989, Shiraz worked for Momenta International, where he developed a pentop computer. By



1999 he found himself as VP of engineering at Canesta, Inc – a designer of low-cost electronic perception technology. He is currently CEO of Giotti, Inc, a medical technology research firm.

John Skruch
The last man out of Atari Corporation moved on to be a project manager



at a dotcom for several years until the bubble burst. He's currently the account manager at 8x8, a cloud-based business communications firm.

went nowhere. Now here was a cancelled cheque for $500,000 and contracts detailing a further licensing agreement that was to have been signed in June between Atari and Amiga. Instead, it appeared the money was returned with interest under the guise of Amiga not getting its custom chips to work. It would have been one of many Atari, Inc projects that faded away had Commodore not announced in July that it was purchasing Amiga and its technology. Renegotiating with Warner during the first week of August 1984 to get ownership of the original contract, Jack launched a countersuit the following week. The two companies locked horns in the courts for the next few years, with Commodore settling out of court in Atari Corp's favour. But the message sent in the interim was clear: you may have forced me from my company, but I'm not going away.

The future looks bright…

Throughout the rest of the year, Jack updated the inherited 8-bit line of computers, finishing operating system development of the new 68000-based computer – then named simply RBP (Rock Bottom Price) – slashed prices of warehouses full of console and computer inventory, and negotiated with Warner and GCC over the Atari 7800. At the January 1985 Consumer Electronics Show in Las Vegas, Jack debuted a demo model of his new computer, by this time renamed the ST and soon nicknamed the Jackintosh by the press. Alongside were the 65 and 130XE 8-bit computers and Atari, Inc mainstays like the 2600 and previously cancelled 5200. The slogan of his new ST computer line, 'power without the price', made it clear that Jack intended to do again what he had done with the Commodore 64: provide a powerful mid-range computer for a low-end price that undercuts everyone.

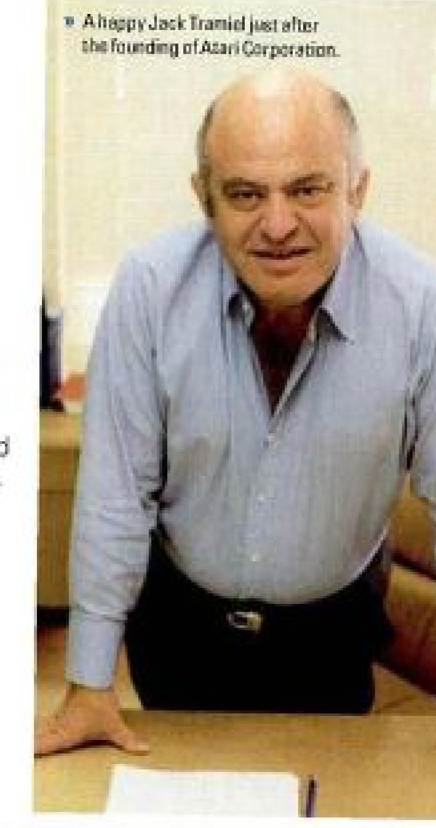
Sales of price-reduced videogame and 8-bit computer back stock generated more income throughout 1985, allowing Jack to put more into the launch of the first two computers of the ST line – the 520 and 1040ST – that summer. Unfortunately, some of those gains were made possible with a reduction in the workforce, from 2,000 employees the previous summer to only 165 by the following June. Jack also reached an agreement with Warner to pay GCC for the 7800's development and ten launch titles.

By August of 1985 he was looking to restart his videogame division. Michael Katz was tapped from Epyx to do just that, and he changed the consumer division into the entertainment electronics division. Katz's vision was to have Atari Corporation expand to all electronic toys, not just videogames. He immediately set about getting more licences together for the relaunch of the 7800 as well as launching the delayed cost-reduced 2600, sometimes referred to as the 2600 Jr, at the magic price point of $50.

The 7800 was relaunched at the January 1986 CES, and by April the announcement was out: Jack had done it. Atari Corporation was out of the red and in the black, and the brand was profitable again. The 7800s that had been sitting in warehouses since 1984 quickly sold out, and by the time of the June 1986 CES Atari was once again 'hot' for both computers and consoles. All was rosy, except for the presence of a Japanese company by the name of Nintendo and its Nintendo Entertainment System.

Katz had first heard of Nintendo in the US market while he was looking for arcade licences for the 7800 in November 1985, finding many of them already snatched up for the NES. But with the company having no reputation among retail channels other than a test market in New York, nothing was thought of it. By the time of the June show, however, it had expanded to Los Angeles and was growing. The fact that both Atari and Nintendo, as well as the emerging Sega, were releasing consoles was taken as a sign that the consumer videogame market in the US was returning – and with a vengeance.

- **1985** – THE ST SERIES DEBUTS AT THE CONSUMER ELECTRONICS SHOW IN LAS VEGAS
- **1985** – JACK BEGINS LOOKING FOR CANDIDATES TO JUMPSTART A NEW VIDEOGAME DIVISION AND RELAUNCH THE 7800
- **1986** – ATARI 7800 IS RELAUNCHED
- **1986** – JACK MANAGES TO BRING ATARI CORPORATION INTO THE BLACK, WIPING OUT ALL DEBT INHERITED FROM ATARI, INC
- **1987** – ATARI CORP INTRODUCES THE XE GAME SYSTEM, MEGA SERIES OF COMPUTERS, AND IBM PC-COMPATIBLE COMPUTERS
- **1988** – JACK TRAMIEL STEPS DOWN AS CEO, SAM TRAMIEL SERVES AS PRESIDENT AND CEO
- **1989** – ATARI CORP DEBUTS THE PORTABLE COLOUR ENTERTAINMENT SYSTEM, SOON TO BE CALLED THE LYNX
- **1991** – ATARI CORP DISCONTINUES THE ATARI 2600, 5200, 7800 AND XE GAME SYSTEM
- **1992** – ATARI CORP INTRODUCES THE ATARI FALCON030, ITS LAST COMPUTER
- **1993** – ATARI CORP INTRODUCES THE JAGUAR
- **1996** – ATARI CORP MERGES WITH JTS CORPORATION
- **1998** – JTS CORPORATION SELLS ALL ATARI ASSETS TO HASBRO FOR $5 MILLION



» A happy Jack Tramiel just after the founding of Atari Corporation.

On the heels of the 'official' national 7800 launch, Atari Corporation went public with its stock, giving it the money to pay back Warner for all loans and leaving it with 48 per cent of a profitable brand.

Flying high with Atari

By 1987, operations were in full force at Atari Corporation. The 7800 was the number two console in the US, and the cost-reduced 2600 was a top-selling low-end console, which was ensuring that Atari was flush with cash. Not one to settle for anything except total market domination, Jack decided to attack the rising Nintendo with a high-end console with capabilities that would set it further apart: the ability to expand into a full computer.

"We wanted to do the 5200 done right," says Leonard. Michael Katz was of the opposite mindset: "In order for a console to be successful it's about the hot titles. You need a hot title for the launch. We didn't have one and I was against releasing the console, but Jack insisted on it anyway."

The XE Game System (XEGS) was released to consumers as a console with a bundled lightgun and built-in computer version of *Missile Command*. Why that version? Because under the hood, the XEGS was powered by a 65XE computer. Driving home the fact even more was the curious distribution method of mainly computer speciality stores.

On the computer front, sales were good but frustrating. Rather than investing dollars in research to significantly update the ST family's operating system (GEM and TOS), Atari Corp instead released a continuing flow of hardware revisions as new models. By 1987 Atari had released the 520ST, 520STM (with television modulator), 520STF (with a built-in floppy drive) and 520STFM (both the modulator and floppy). Likewise, it had released the 1040STF (520ST with an extra 1MB RAM and an internal floppy drive), and the 1040STFM (1040STF with TV modulator).

Added to this was Atari's entry into the workstation market, the Mega ST series, with models that represented arbitrary hardware upgrades – Mega 1, 2 and 4 simply refer to the amount of RAM in the machines. Inside, the Mega itself introduced features that Atari ST users had been asking for: a card expansion slot and detached keyboard. There was also Atari's new Blitter graphics co-processor chip… at least for some of the models, once again causing confusion among retailers and consumers. As if to hedge his bets in this new high-end business market, Jack also had Atari Corporation start an IBM PC clone line called the Atari PC.

One lingering obstacle still remained in the way of raising sales of the ST line: the legend of Jack Tramiel. While sales of the ST range were strong in Europe, Jack's days as head of Commodore had left a bad taste in the mouths of many of the larger US retail chains, and getting into them was a challenge. Jack had been focusing on smaller speciality computer stores and made some headway in music stores thanks to the built-in MIDI support's popularity with musicians, but in a move that foreshadowed Gateway's and Apple's similar moves in the late Nineties and 2000s, Jack sought to get around the retail problem by creating his own stores. The answer was to purchase electronics chain Federated Electronics and install his second son Garry, then a VP at Atari Corporation, as its president.



» The Jaguar era art team going out for sushi.

> **"Jack believed in motivating people by instilling fear that their jobs were dispensable"**
>
> DONALD A THOMAS JR, DIRECTOR OF CUSTOMER SERVICE/MARKETING

Together forever

1988 became a year of transition at Atari Corporation. Jack had his overall goal accomplished – a strong company and legacy that he could leave his sons to run – so he made plans to retire from daily operations and have his son Sam take over the CEO position in addition to his current duties as president. Jack would remain involved in larger decisions as chairman of Atari Corporation's board, but otherwise Sam was in charge of everything as of that May.

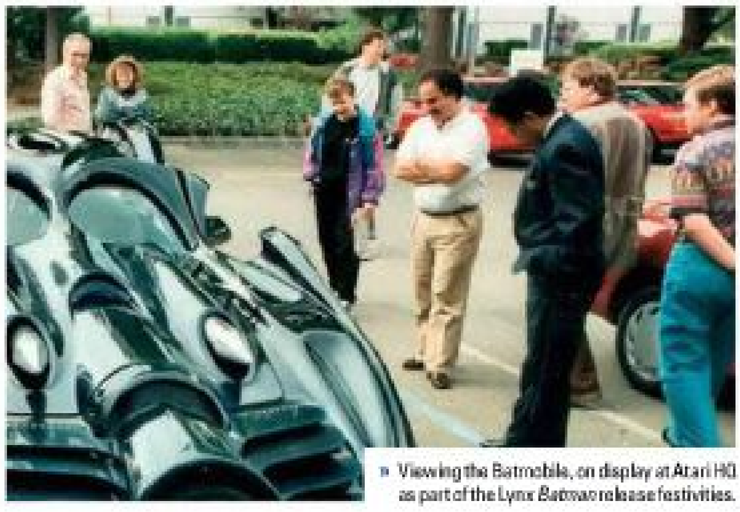
Even though the distance between Atari and Nintendo in the console market had widened, Atari continued its trifecta approach of the 2600, 7800 and XEGS, releasing 45 new games for those systems. However, the real important developments at the company were happening behind the scenes.

Seeing the writing on the wall, Atari began work on a replacement for the 7800 and XEGS called the Super XE, which soon morphed into a way to leverage the ST's internals for use in a 16-bit games console. Atari found that it was not alone in looking at this new market when Sega of America contacted it. Although the Master System had done well internationally, in the US it placed third behind the NES and Atari's 7800. Sega was looking to ▶

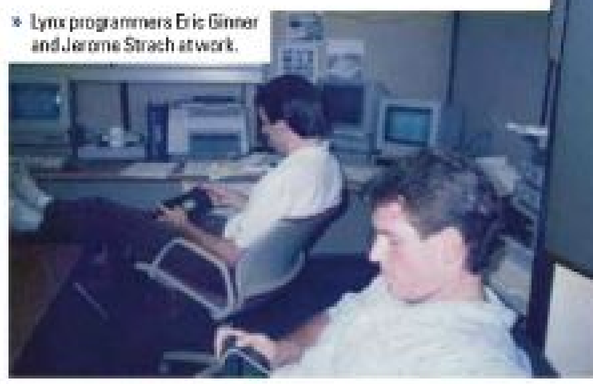


ATARI MICROBOX

Atari was working on three different replacements for the Falcon at one point, all of which were cancelled to focus on the Jaguar: a full 32-bit version, a 68040 version, and a version called Painter that would use the Jaguar chipset. All were to fit into a new stylish workstation-oriented case called the Microbox. If the Microbox case looks familiar, it's because Sony licensed elements of the case for the PS2. How did it know about it? Many ex-Atari Corporation people wound up at Sony after the 1995 purge.



» Viewing the Batmobile, on display at Atari HQ as part of the Lynx *Batman* release festivities.



» Lynx programmers Eric Ginner and Jerome Strach at work.



strike up a partnership with Atari by having its upcoming 16-bit Mega Drive system released in the US as an Atari-branded product. Serious talks ensued but ultimately fell apart, as Jack wanted international rights, as well as the US.

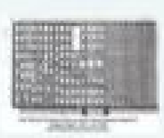
A licensing relationship with Katz's old company, Epyx, was further expanded that year to include hardware. Epyx had been having financial problems and was looking for assistance to get its Handy handheld game console to the market. The deal struck had Atari manufacturing and distributing all the Handy units under its own name, while Epyx would provide all the software. By the time it would come to fruition in 1989 as the Atari Lynx, Epyx was going bankrupt and the entire rights to the powerful colour handheld system would move over to Atari.

While getting complete ownership of the Lynx in 1989 would position Atari at the forefront of the coming handheld console revolution, 1989 would also be the year that Atari and Jack's legacy began to unravel. The first sign was on 31 January 1989, when Atari Corporation filed a $250 million lawsuit against Nintendo for its restrictive third-party licensing practices that locked in the most popular developers to only write games for Nintendo's platform. While not the only company to complain and go to court over the policy, it signified the beginning of an era of lawsuits launched by Atari Corporation to either change the marketplace in its favour or gain more money. It ultimately lost the Nintendo case, but by the time it was decided Nintendo had dropped the practice anyway and begun focusing on the upcoming Super Nintendo. However, Atari would later win a series of patent violations against Sega, which resulted in an influx of cash and licensing deals that brought Sega games to Atari platforms.

In February Michael Katz left, ostensibly to retire, but by the end of the year he was at Sega of America as its new CEO, positioning the freshly launched Sega Genesis to be the dominant console of the early Nineties. And as the final blow in a flurry of punches, in March Atari announced that it was selling off Federated Electronics. Jack's distribution plan had not worked, and instead the operation had siphoned off more money from Atari as it needed constant financial support to stay afloat.



ATARI VS COMMODORE



Probably no other aspect of Atari Corporation inspires debates to this day than the Atari/Commodore rivalry – or Atari/Amiga, that is. This is mainly due to the intertwined relationship between both companies, with Jack Tramiel being the head of both at different points in time. Unfortunately the truth is far more mundane than the exciting legends, which include stories of Jack buying Atari to get back at Commodore, Jack developing the ST in response to 'losing the Amiga', and a fanciful last-minute save when Commodore bought Amiga.

The truth is that Jack fully intended to retire after leaving Commodore, initially departing on a vacation around the world. Telling friends the only way he'd get back in was if the Japanese were coming into the market and he felt that nobody was strong enough to compete, by March those feelings got the best of him. Forming Tramel Technology Ltd, various key Commodore personnel left to join him. By April and May, Commodore engineers like Shiraz Shivji had also left and were holed up in a nondescript hotel room in California, designing the next computer that was never based around any Amiga technology. At the time when Jack purchased Atari Consumer, development of the ST was 90 per cent done.

Atari finally put out something more than an incremental computer update, the foremost being the 1040STE, although some would argue that it was too little, too late and should have been the main update several years before. Joining the 1040STE in 1989, however, were the Atari TT and Stacy laptop. The TT jumped Atari's computer offering into 32-bit territory as a high-end workstation, retailing for almost $3,000 when it hit the market the following year. The Stacy, while not Atari Corporation's first attempt at a portable computer, did represent its first attempt at bringing the ST into the laptop realm – or what passed for them at that time. Probably the most promising for the future of Atari Corporation in 1989 were relationships struck up with two British firms. First was Distributed Information Processing (DIP), which had managed to produce the world's first palmtop computer that was also fully compatible with MS-DOS. Licensing that and releasing it as the Atari Portfolio put the brand at the forefront of mobile computing at the time, if only for a little while.

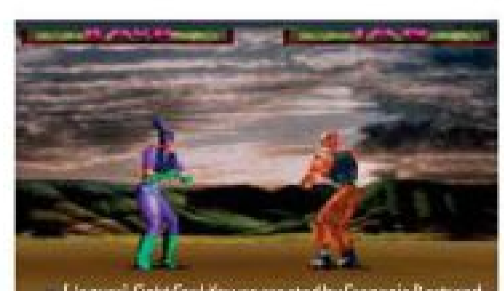
The second relationship was with Flare Technology, a group of former Sinclair engineers who left to start their own company around developing an idea that they had for a multi-chip system that became the Flare One. By that time, the Super XE console had transformed into an advanced 32-bit system that leveraged ST technology with the short-lived Atari Transputer's graphics card. When Flare got involved, it had no sound and no name. Flare employee Martin Brennan suggested naming it after his wife's new car, the Panther Kallista, and the project received its last in a string of names: the Atari Panther. Three games were written on the unfinished platform along with some material that legendary British coder Jeff Minter had been coding, before Brennan talked Atari into abandoning the Panther for a 3D platform.

"While I was over in California in '89," begins Martin, "I actually convinced the bosses at Atari that 3D was the way to go, with the experience we'd gained on Flare One – if you didn't just do flat rendering but shaded rendering, you got a 3D appearance. At the time, I was seeing pictures in magazines where computers were rendering photorealistic 3D wire meshes and I said: 'These are static images, but they only contain a very low number of polygons. We could take that, animate it and you could produce a game that was a quantum leap away from the current games.'" And so, what was to be Atari's last games console, the Jaguar, was born on the strength of a promise made in 1989.

This is the end…

Microsoft's release of Windows 3.1 in 1992 began the dominance of the 'Wintel' (Windows running on Intel hardware) platform, and suddenly Atari and Amiga found their computers being relegated to the niche markets of music and video production respectively. Atari Corporation's 8-bit consoles and computers had become amoebic in sales, to the extent that support for all of them was dropped as of 1 January 1992. Atari tried to soldier on with further updates in the ST line via the Mega STE, the STBook laptop, and its final computer, the Atari Falcon. On the market for a year, its cancellation signified Atari leaving the computer industry altogether in favour of focusing on its Jaguar console.

Besides the limited computer sales, the Lynx was all but carrying Atari at the time. It had enjoyed decent sales, but this was the first device under Atari Corporation that



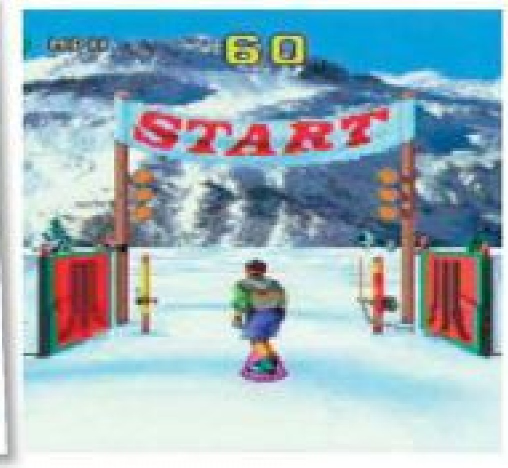
» [Jaguar] *Fight For Life* was created by Francois Bertrand, who worked on *Virtua Fighter*, it was panned on release.

"The company called it 'RIF', a quaint acronym for 'reduction in force'. We called it 'layoffs'"

BJ WEST, ART DIRECTOR AT ATARI CORPORATION, ON THE NOVEMBER 1995 LAYOFFS

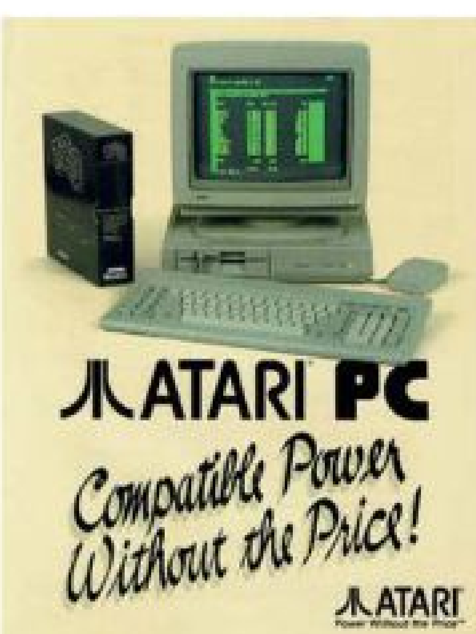






could not be delivered under its 'power without the price' slogan; the colour LCD screen assured that Sam Tramiel could not drop the price of the Lynx to be competitive with Nintendo's cheaper Game Boy. To Sam's credit, though, Atari still scored some major tie-ins like *Batman Returns*, for which a 15-minute Lynx commercial played in cinemas before screenings. He also managed to get placements for the Lynx in youth-oriented TV shows like *Full House* and *Parker Lewis Can't Lose*, as well as movies such as *If Looks Could Kill (Teen Agent)* and *Child's Play 3*. There was the multitude of licensed ports of coin-op games by Atari Corporation's now distant cousin, Atari Games, such as *APB*, *Gauntlet* and *S.T.U.N. Runner* as well. However, it was becoming apparent to Atari that it needed to focus on the Jaguar, which across 1993 and 1994 was generating the bulk of the company's sales.

That promise of a 3D games console future for Atari had manifested itself in the release of the Jaguar in late 1993, a complicated multiprocessor system with a mixture of 64-bit and 32-bit graphics and sound processing, along with a venerable 16-bit 68000 chip meant for bootstrapping, all of which should have been a crowning achievement. Instead, Atari forced Flair to rush to finish development of the custom hardware in 1991 and do product testing during 1992. The end result was some bugs in the hardware, a development manual written by Atari people who were not completely familiar with the architecture, and buggy and poorly written development software. A small internal game development budget and outrageous licensing and development fees for third-party developers made the best success repellant in the world. Many of the established publishers and studios stayed away from the platform, and those that didn't simply ignored its complex multiprocessor architecture in favour of using the 68000 as the main processor. Doing so instead of shutting it off after booting, which was the intended use, ensured that the Jaguar was limited to an expensive 16-bit machine for many games. In fact, some of the games were simply ported code from the 16-bit Genesis with graphics that fell far below the Jaguar's true capabilities.



As Atari Corporation was releasing its overdue and hyped CD unit for the Jaguar in September of 1995, it found itself in the precarious position of being sandwiched between two 'next-gen' console releases: the Sega Saturn and Sony PlayStation. Both released the previous year in Japan and were becoming runaway successes in comparison, and the Jaguar's paltry offering of games that made little use of its hardware were already looking dated next to consoles that were just getting started. Sam Tramiel downplayed the rival systems and their capabilities in an interview in *Next Generation* magazine, which is now legendary for Sam seeming so out of touch with the reality of Atari's position.

The financial situation behind the scenes was dismal. By the end of 1995, Atari Corporation's sales declined by more than half, from $38.7 million in 1994 to $14.6 million in 1995. Since its introduction in 1993, Atari had only sold approximately 125,000 Jaguars – 100,000 by the end of 1994 and a mere 25,000 for all of 1995. And as low as it was, that 25,000 represented 76 per cent of the $14.6 million figure. In other words, the company was sinking fast because it had bet everything on the Jaguar.

What also soon became apparent was that the weight of the company wasn't just on the Jaguar but almost squarely on Sam Tramiel as well. He suffered a heart attack, which in hindsight put the *Next Generation* interview in the light of a CEO desperately trying to keep up appearances.



THE 'OTHER' ATARI



Atari, Inc's coin division was spun off by Warner as Atari Games in 1984, and soon after it sold a controlling interest to Namco. In 1987 Hide Nakajima resigned from his Namco board position and, with Atari Games employees, bought 20 per cent of Namco's interest, essentially leaving the company under employee control. Under Nakajima, Atari Games entered the console arena as Tengen and also ended up suing Nintendo over its restrictive licensing practices. Namco sold out completely to Warner in 1990, giving it majority ownership, with Nakajima and employees selling out their remaining shares on 11 April 1994. Only a few months later, the coin-op brand's beloved Nakajima passed away from lung cancer. Under Warner, Atari Games became a subsidiary of Time Warner Interactive. In 1996 Atari Games was sold to WMS Industries subsidiary Williams Interactive, and was eventually transferred under fellow WMS subsidiary and soon to be spun off Midway Games. Midway eventually renamed Atari Games to Midway Games West before closing it down entirely on 7 February 2003.



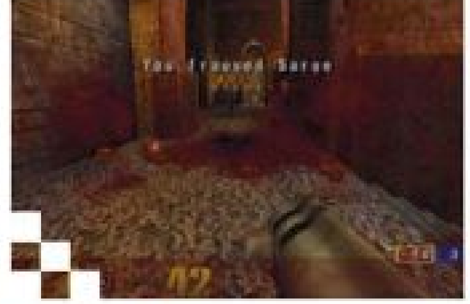
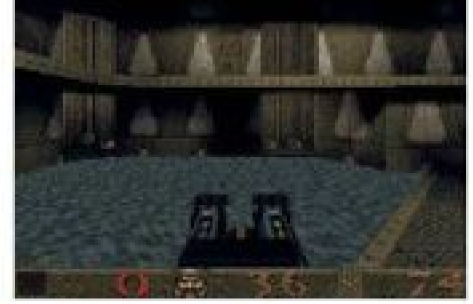
After the heart attack, Jack came out of his retirement from daily operations and was met with a far different company to the one he'd left. Jack immediately significantly downsized the Jaguar programme in November of 1995, cancelling the cost-reduced combination of the Jaguar and CD unit called the CoJag and a more competitive Jaguar II. Major layoffs followed that month, as well as soon shutting down the Atari Interactive MS-DOS game-porting initiative and any other recent project efforts as well. By January he began looking for a way to sell off the company before it and the money coming in from recent lawsuits was completely gone. He found the answer in the up-and-coming hard drive manufacturer JT Storage.

The merger was announced on 13 February 1996 and occurred in June when Atari Corporation reverse merged with JTS to become a division of a new company called JTS Corporation. Jack and some of the other executives would become board members of this new company, and Jack got the approval of Atari Corporation shareholders based on the promise that Atari would continue operations after the merger. However, as layoffs continued, it became obvious that Jack simply intended to keep things going in as minimal a capacity as possible. The truth couldn't have been clearer than when 1997 rolled around and the Atari 'division' of JTS was a solitary person, John Skruch, at a single desk. Skruch was single-handedly handling any remaining Jaguar support, the Atari website and any licensing, such as Activision's acquisition of the rights to *Asteroids* and *Battlezone* to do updates the following year.

Shareholders launched a suit against Jack that continues to this day, claiming that he misrepresented the merger. However, in the interim it would solve nothing as JTS itself was quickly falling down a financial pit as well. The company sold off all the Atari Corporation properties and remaining warehouse stock to Hasbro on 28 February 1998 for only $5 million. Although it was the end of the Atari brand proper, it was almost fitting that the last employee left, the one to turn off the lights, was Skruch, who had been an employee of both Atari, Inc and Atari Corporation.

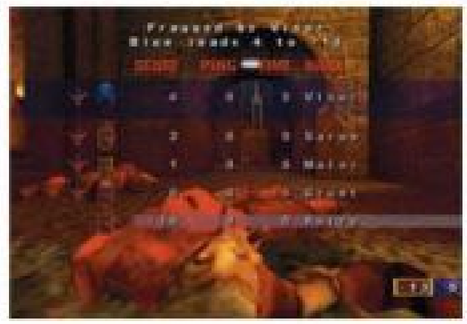
Special thanks to Leonard Tramiel, BJ West, John Skruch and Don Thomas.

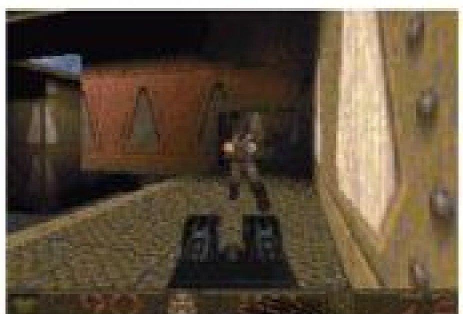








Signature Series

Quake



Quake. It changed a genre forever, and shaped the course of PC gaming into what it is today. John Carmack and John Romero, two of the minds behind this FPS beast, talk about desktop gaming's most influential series

THE BACKGROUND



A relatively small development house in Texas, originally known for its side-scrolling platform series *Commander Keen*, did things very right in the Nineties. id Software, whose staff now fall squarely in the category of gaming legends, smashed what we believed of the limitations of our ugly grey desktop boxes. With each title that they unleashed on the PC gaming public, John Romero, John Carmack, Michael Abrash and the rest of id's talent left both customers and competitors alike dumbfounded.

As we all know by now, it was *Wolfenstein 3D* and *Doom* that led the way as truly groundbreaking titles for id Software, both in terms of their technological achievements and also for simply being fun to play. Gamers were essentially faceless, floating guns fighting vast armies of evil; first Nazis, then the demons of hell.

But it was when *Quake* exploded onto our screens in 1996 that id's offerings presented something so radically new that anyone with more than a passing interest in PC gaming was left asking just how many times one small group of guys could revolutionise first-person shooting.

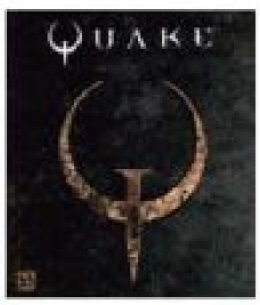
It didn't matter that it was the same formula as before, with a Lovecraftian twist. It didn't matter that the games' storylines didn't always have much to do with each other, or with anything for that matter – we're looking at you, *Quake III*. The

original *Quake* was always about pure action, taking the winning formulae that had worked so well with *Doom* and *Wolfenstein 3D*, but this time replacing the old ways with the new gods of 'true 3D' and 'realistic physics'. The result was far more than the sum of its parts.

With four main titles, a string of expansions and spin-offs, a massive online community, and its status as a forerunner in the world of professional electronic sports and a major contributor to the speed-run scene, *Quake* broke new ground on all fronts. Genuine 3D graphics, unparalleled online multiplayer, believable physics, and a religious modding and map-making community cemented the series' place in gaming history forever, and paved the way for some of the most important games of all time.

THE GAMES

Quake (1996)



This was the PC gaming world's big one. Like *Final Fantasy VII* to RPGs or *StarCraft* for real-time strategy, *Quake* didn't just join the fray so much as send a shockwave through the global gaming scene. See, what made *Quake*'s arrival so monumental was that it marked the first real 3D shooter. Just that phrase in itself should indicate why *Quake* holds the hallowed spot that it does. Everything that had come before, including *Wolfenstein 3D*, *Doom*, *Heretic*, *Descent* and even the much-loved *Duke Nukem 3D* were actually two-dimensional sprite-based games using skewed textures to give the player the illusion of moving through a 3D world. In reality, everything was still occurring on a flat plane. Even though varying rooms and platforms could have different levels of elevation, players could never actually go under or over anything else, as maps had no real z-axis.

Not so with *Quake*, which sported 360 degrees of potential movement, genuine vertical depth, and characters comprised of three-dimensional polygonal shapes, smoothly rendered by the game in real-time. This graphical innovation may well have slipped into history as merely an impressive technical feat by id Software were the programmers not carrying another ace up their sleeves: physics. *Quake* was the title that gave physics the place it now holds in 3D gaming – not just a novel feature in FPS games, but an integral element in practically every genre, from real-time strategy to racing. Probably the most legendary function of *Quake*'s physics engine, which included a knockback effect for explosions, was the rocket jump. But, as John Romero explains, this was far from an intentional inclusion.

"We absolutely did not anticipate the rocket jump while making *Quake*," he says. "If anyone on the dev team had accidentally rocket jumped at any time, we would have been all over it, and we would have redesigned the levels to make them not so easy to complete with rocket jumping. On E2M1 [Episode 2 Map 1], you can finish the level in 11 seconds with rocket jumping. I would have definitely fixed that. I think it's an awesome ability, and have used it extensively in deathmatch for years. But while we were making *Quake*, no one knew about it."

EXPERT OPINIONS

We pick the brains of John Romero and John Carmack to get an insider's perspective on id Software's revered series

Do you think that *Quake* could have something like the *Street Fighter II HD Remix* treatment and be a hit again?
JR: I absolutely believe *Quake* was a great game in both single-player and multiplayer modes. I designed the game very purposefully to be our darkest, most unsettling, and most violent game. To do that, we had to make a fantasy world with some pretty bizarre creatures, make the world a scary place to explore, and make sure all the feedback, from shooting to getting hit, was violent. For the time, nothing was as dark and unsettling as *Quake*. In fact, even today it's tough to find a game with the same atmosphere and bizarre design. Out of all the source ports, DarkPlaces has been my favourite, and it looks really great with all the settings on high. If a team decided to put the game into a new engine, up-res the models and up-res the audio, it would still be very impactful.

How different is *Quake* to the original game that was envisioned, which had a Thor-like character with a giant hammer, and why did these changes take place?
JC: It became clear fairly early on that closing the distance for melee combat just wasn't as much fun in a first-person perspective as shooting, and we certainly wanted to 'follow the fun'. We were also pretty much flailing without good design leadership through most of the project; many of the elements of the game just emerged from which individual designers were more productive.

What technical difficulties did *Quake* present compared to *Doom*?
JC: The visibility culling problem was one of the harder technical issues, and probably half of *Quake*'s development was spent suffering with missing bits of geometry during gameplay. There are a number of good ways to deal with *Doom*-style levels as a one-dimensional problem, but the arbitrary geometry in *Quake* levels don't lend themselves to any convenient solution. I spent a fair amount of time chasing the chimaera of perfect screen-oriented beam trees before settling on the pre-calculated potentially visible set (PVS) solution that required so much computational horsepower to produce that we were set on the road of almost using supercomputers for game development.

Why such a monotone palette in *Quake*? It seemed such a step back from the more distinct colours of the id games that came before.
JR: The *Quake* palette was picked for two reasons: we wanted the graphics to have 16 levels of darkness per colour, and there were only 256 colours in the VGA palette, which means we could only have 16 different colours. In addition, we wanted the game to be dark and violent, hence the 16 brightness values, and so we chose browns, blues and greys as the dominant colours. It was mostly all about the game's attitude and feeling that helped us choose that palette. It just matched.

Is it true that *Quake III* came about due to the team not speaking to each other and only focusing on single-level arenas?
JC: *Quake III* was designed from the beginning to be a multiplayer-focused game, with bots for single-player. There was a 'deal' internally that the following game would be single-player-focused. That turned out to be *Doom 3*, although we hadn't decided on the game until after *Quake III* shipped.

Where can you see *Quake* heading in the future?
JC: There is a general feeling that after *Quake II*, *Quake 4* and [*Quake Wars*], the Strogg theme is played out, and that it may be worth revisiting the Cthulhu horror theme, but we have no firm plans in place.



» [PC] The original *Quake* merged dark fantasy and gritty sci-fi to create a setting that felt wholly unique.



» [PC] *Quake 4* was the first in the series not to fly the flag for a new engine, instead using the one pioneered in *Doom 3*.

Signature SERIES

> “Quake sported 360 degrees of movement and three-dimensional polygonal characters, smoothly rendered in real-time”

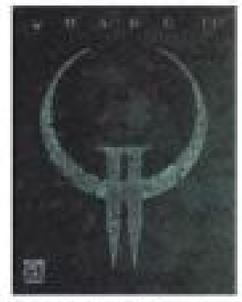
Also appeared on…

WHILE THE ORIGINAL *Quake* was ported to pretty much every system out there – including, amazingly enough, the Amiga – and the series has appeared with mixed success on a slew of consoles, one of the most enduring incarnations is the free-to-play *Quake Live*. This browser-based affair, currently running on Windows, OS X and Linux, shows the longevity of the classic *Quake III Arena* gameplay, now 12 years old. *Quake* and *Quake III* are also available on jailbroken iPhones, and while their appearance is a technical marvel, we're not massive fans of the control setup. We definitely have to give a nod to offshoot kwaak3, however, as this open-source port allows for touchscreen, keyboard and trackball input on Android.



From its contributions to the FPS genre – both intentional and inadvertent – and the explosion it caused in the world of online multiplayer, to the community it spawned, *Quake*'s impact on computer and videogaming cannot be overstated.

Quake II (1997)



While its predecessor had a plot that seemed to have been constructed by throwing darts at a board with words like 'nails', 'slipgate' and 'Cthulhu' randomly strewn across it, *Quake II* actually had what can safely be called a storyline, without having to invoke any poetic licence. Here we saw the introduction of the very angry, very violent Strogg, a race of cybernetic aliens who attack Earth. Not groundbreaking stuff, but it did introduce us to Bitterman and gave players a sense of purpose beyond 'kill all that moves'.

On top of this, *Quake II* also saw the brains at id Software making leaps and bounds ahead of the original when it came to actual challenges in the levels. No more were we limited to simply finding colour-coded keys to unlock doors; instead, this time round players were tasked with completing plot-significant goals and solving puzzles that could see them altering the level environments to make it through to the end. Players had to access new areas by, say, flooding locations with water, using giant lasers to blast open new paths, or moving huge pieces of machinery to progress through the maps.

What's more, *Quake II* also introduced the novel concept of revisiting previously completed levels later in the game through the use of a central hub system – not entirely novel in gaming, but it did break away from the strictly linear routes that gamers were used to taking through their first-person shooters.

The game's multiplayer component also saw a major leap forward from id's previous titles, now allowing up to 32 players to take part in its deathmatch frenzies. Thanks to the innovative new tech running under the hood, and its combination of unprecedented graphical standards, outstanding level design and unparalleled online play, *Quake II* went on to be yet another smash hit for id, selling well over a million copies. Two official but third-party expansion packs were released, and thanks to id's propensity for eventually releasing source code into the wilds of its community, the game has seen some outstanding mods and other user-generated content, including a full remake of the original *Doom* in the *Quake II* engine.

Despite *Quake 4* naturally holding the top spot when it comes to technological prowess, it is *Quake II* that remains, for many, the game that offers the pinnacle of the series' single-player experiences.

Quake III Arena (1999)



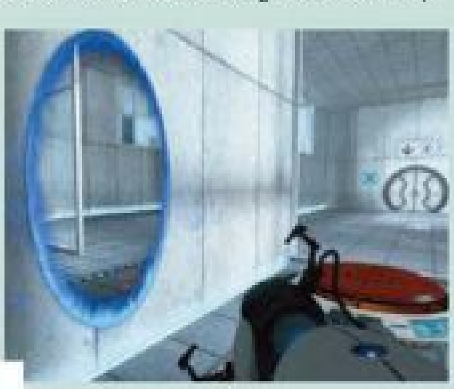
Quake III Arena is emblematic of where FPS gaming was at the turn of the millennium. In a possibly daring move, but one that turned out entirely justified given PC gaming trends of the late Nineties, id Software released a major mainstream title that didn't possess any single-player campaign whatsoever. It boldly made the move to turn *Quake III* into the online multiplayer game of choice, and it succeeded, thanks to the game's fast, smooth action, an underlying network protocol that functioned better than ever before, the same ease of finding online servers or setting up your own, and the outstanding 'awards' system that has come to be imitated by countless releases since.

Awards were marked by symbols appearing above your character's head, representing such things as your accuracy, your ability to score 100 frags, and an appropriate icon if you'd managed to humiliate another player by killing them with the gauntlet.

We can't cover this without mentioning its expansion, *Quake III: Team Arena*. This was the game of choice for those more into *Quake III*'s team-based modes, and added more game types beyond the standard deathmatch and capture the flag offerings. It included all-new levels and character

UNDER THE INFLUENCE

THE *QUAKE* SERIES broke new ground with each title, contributing to the underlying workings of a slew of the biggest names in the genre today. For a start, two of PC gaming's biggest ever titles have their engine DNA firmly in the *Quake* gene pool: the original *Half-Life* runs on a heavily modified version of the *Quake* engine known as GoldSrc, which later became the basis for Valve's Source engine. And so it is that the likes of *Half-Life 2*, *Portal* and the phenomenon that is *Counter-Strike* also owe their existence to the series. While *Quake II* itself may well be the best game to make use of its underlying tech, it did give rise to the likes of Ion Storm's sci-fi epic *Anachronox* and the controversial *Soldier Of Fortune*. In turn, *Quake III*'s engine ran LucasArts' *Jedi Outcast* and *Jedi Academy*, and went on to power the first release in a little series called *Call Of Duty*. Carmack and crew done good.







SERIES HIGHLIGHTS

ROCKET JUMPS



■ THIS INADVERTENT INCLUSION to the series made for some interesting moments in *Quake*'s single-player campaign. In multiplayer mode, however, you were nothing without it.

SUBMARINERS



■ THANKS TO EVEN more of its trademark graphical wizardry, id Software introduced proper underwater areas to its games, complete with awesome wobbly screen effects.

LAST BLAST



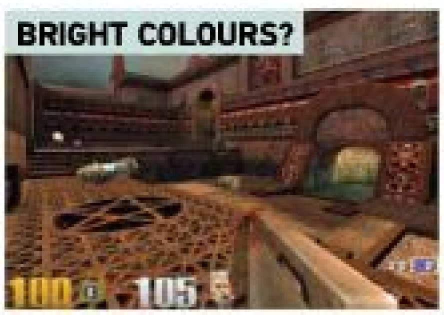
■ WE LOVED THIS in *Quake II*. After being taken down, some enemies were still able to fire off a few shots at you while on the ground. A simple but awesome innovation.

SINGLE-PLAYER?



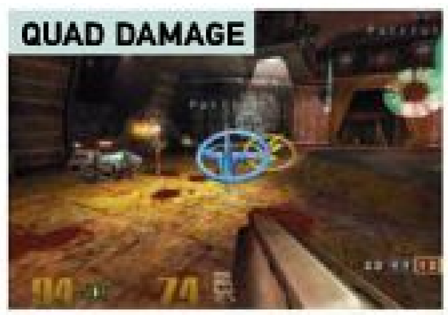
■ YEP, THE THIRD *Quake* game tossed aside the idea of a single-player campaign and instead focused itself entirely on how best to allow human beings to simulate killing each other.

BRIGHT COLOURS?



■ *QUAKE III* SAW another serious break from the mould with a bright and colourful palette miles removed from its brown predecessors. Whether you love it or hate it, it worked.

QUAD DAMAGE



■ SO GREAT TO get it; so terrible when you hear it going to someone else. The Quad Damage power-up is a series staple – not to mention a multiplayer holy grail.

FRAGS



■ A DEATHMATCH FUNDAMENTAL, this name for a multiplayer kill has since gone beyond just the *Quake* series and entered into standard gaming parlance.

THAT SOUNDTRACK



■ THE MUSICAL TALENTS of Nine Inch Nails and Sonic Foundry saw the earlier *Quake* titles feature tunes that many fans still include in their iPod playlists to this day.

models, some additional weapons, and was another winner for id.

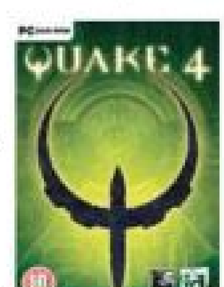
One noteworthy thing to mention about *Quake III*'s technological leap forwards was that, for the first time in the series, and for the first time in many gamers' experiences, the player models were made up of three distinct parts, with head, torso and legs all able to move independently. Thus, players could actually see where opponents were aiming at any point, even if they were running in a different direction, giving important visual clues for high-level play. Additionally, *Quake III* allowed gamers to choose models named Doom, Ranger and Strip, which represent characters from *Doom*, *Quake* and *Quake II* respectively. Admittedly a surface-level 'feature', but a pleasing bit of fan service nonetheless.

More on the tech side was the outstanding bot AI that proved to be id's finest yet, and the best many gamers had ever seen. Players could use a GUI to order their AI-controlled team-mates around, but it was also possible to verbally issue commands and get spoken responses in return. And they weren't sitting ducks when it came to verbal abuse, either: the bots responded very specifically to taunts and trash-talking. More importantly, they would learn and improve their game as they were exposed to your play style and habits. The more one played a particular level, the better the bots would become – in fact, you could see the actual AI pathfinding file growing in size on your hard drive.

Being an id game, there was, of course, a large modding scene surrounding *Quake III*, and one of the most noteworthy releases has to be *Rocket Arena 3*. Sure, *Rocket Arena* had been around since its first iteration was released for the original *Quake* in 1997, but it was *Rocket Arena 3*, making use of all the newfangled engine had to offer, that really stood out. Its amazingly popular Clan Arena mode eventually developed a vast player community, which chose to use this mod first and foremost for their *Quake III* experience.

Quake III is still played by gamers the world over, due in no small part to the free browser-based port, *Quake Live* (see the 'Also appeared on' boxout).

Quake 4 (2005)



In a departure from the *Quake III* formula, *Quake 4*, developed by Raven Software, took players back to the *Quake II* storyline, with the cybernetic Strogg returning as the chief antagonists. The reality, however, is that *Quake 4* had arguably the least impact of all the titles in the series, as it was based on the engine that had already been seen and played in *Doom 3*. Overall, whereas the previous releases in the series marked giant leaps forward for games, impressing with their innovation, *Quake 4* was, unfortunately, just one small step. Due to its level design and standard sci-fi setting, it's easy to see how it could just as easily have been named *Doom 4*.

"You see," says John Romero, "id had three big franchises at that time: *Wolfenstein*, *Doom* and *Quake*. Each one was different. But with *Quake II*, they crossed the line into *Doom*'s territory by having biomechanical enemies, and making the player more of a big, badass space marine. With *Doom 3*, they made the game very dark like *Quake*, so I think they started to muddy both IPs. When *Quake 4* was released, I was playing it and at some point I said: 'I don't even know if I'm playing a *Quake* or *Doom* game.' I've heard that id is pondering going back to the original fantasy-themed design, and I agree it's a much better direction for the series."



» [PC] If you thought *Quake* was impressive, look how far id came in only a year.

EASTERN BLOCKS

HENK ROGERS AND THE MAKING OF GAME BOY TETRIS

Alexey Pajitnov may have created Tetris but it was Bulletproof Software's Henk Rogers who battled through Soviet Russia and Nintendo boardrooms to bring the game to the masses. Ashley Day puts the pieces together...



"I first saw *Tetris* at the Consumer Electronics Show in Las Vegas, 1988," says Henk Rogers, the man who had already changed the gaming world once by introducing the RPG to Japan with Famicom's *Black Onyx*. Little did he know that he was about to do it again by taking an amazing new Russian puzzle game and embarking down a path that would eventually bring that game to the masses. "I was going to trade shows looking for games to bring to Japan. Most of the games, you really can't get a feel for how they play in such a short time. You stand in line, it's your turn to play, you play a little and then you move on. Well by the time I'd played *Tetris* for the fourth time I realised I was hooked. I started going after the rights there and then."

Before getting involved with the Game Boy edition, Henk secured the console rights to *Tetris* and produced a Famicom version for Nintendo. But initially, its success was far from assured. "That Christmas, *Tetris* had come out and I thought it was going to be a great opportunity," remembers Henk. "But for a game to become a hit you really have to sell about 100 to 200 thousand in your first order, and I'd managed to get 40,000. That's not even worth making. I went to [Nintendo president] Hiroshi Yamauchi and I said, 'Listen, I think I have one of the greatest games of all time here. I don't know what I'm doing wrong, maybe it's my sales guy or my marketing guy is ineffective, whatever, but it's off to a wrong start and I need your help, so can you do something for me?'

"He called in Miyamoto and said 'Is this really a great game?' and Miyamoto replied 'All of your accountants and secretaries are playing this game on their lunch breaks and after hours every day. It's a great game!' So then Yamauchi called in Hiroshi Imanishi, who was the number two, and said 'I want you to have our sales guy call every distribution company and tell them to order more. I'm going 'Wow! There's some serious action going on there.'"

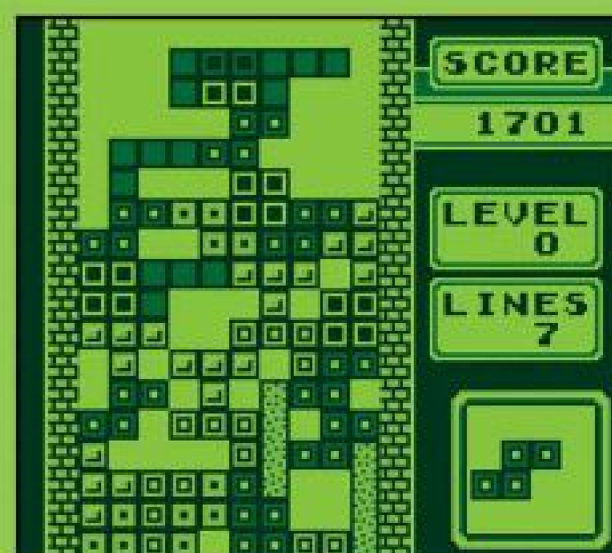
Yamauchi's typically fierce business acumen netted Famicom's *Tetris* another 30,000 orders, bringing the total number up to 70,000, which was still some way off the minimum 100,000 orders needed to generate a hit. With so many excess cartridges in production Bulletproof would have to start slashing prices or dumping stock altogether by January, a resort that Henk simply couldn't afford to take. "If a game goes into dumping and is sold for less than it cost then you're basically screwed!" exclaims Henk. "Nothing has ever come back from that situation. So I called my sales guy and got him to call the distributors saying 'This is not a game that sells quickly. Hold onto your inventory because it will come back!' This was something unheard of, and some of the stores actually did sell out by February and eventually all the stores were screaming for the game. We ended up selling 2 million."

"I was unannounced, which never happened in the Soviet Union. You weren't supposed to talk to anybody"

If this situation wasn't stressful enough, Henk arrived in Russia that same February, uninvited yet determined to grab the handheld rights to *Tetris* for Nintendo's Game Boy platform. "That was my first time there and it was my reason for going. In February, with a tourist visa, I landed in Moscow and started looking for Electronorgtechnica. And I was unannounced, which never happened in the Soviet Union. You weren't supposed to talk to anybody, let alone do any kind of business with anybody, and this was a government organisation. I walk into this place unannounced and they're going 'who the hell are you?' I said, 'I'm the guy who publishes *Tetris* in Japan. I want to talk to somebody about it.' The guy, Mr Belikov, who ended up negotiating with me eventually got



» [Game Boy] Hooray! Quadruple line score! Waiting for that I Tetrimino almost always pays off if you're aiming for those really high scores.



» [Game Boy] Some games of *Tetris* last for hours. This game was not one of them.

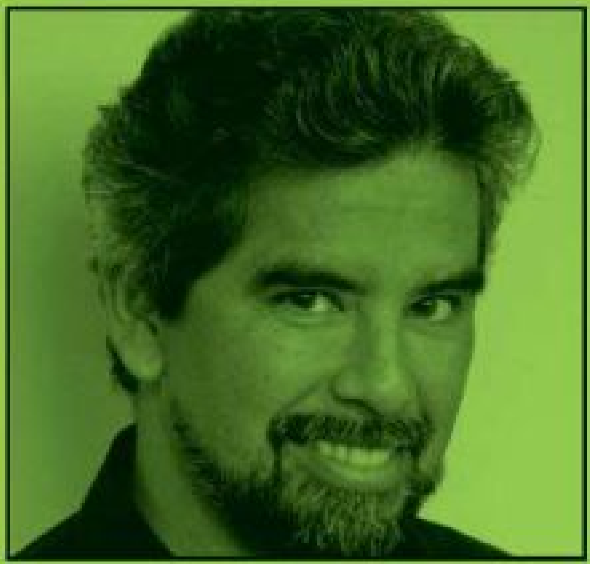
EASTERN BLOCKS

HENK ROGERS AND THE MAKING OF GAME BOY TETRIS

The outside world

Henk Rogers recalls Alexey Pajitnov's first trip to Japan

"HE DIDN'T HAVE any first-hand knowledge. The first time I brought him into Japan and we went into a supermarket, his jaw dropped. His reaction was like 'Oh my God!' that this could possibly exist. If you wanted an apple in Moscow you had to stand in line with a hundred people and wait for them to call you up. You had no choice. And there's no sign in that window saying 'apple for sale'. Word gets around and when you see people queuing you know there's something for sale there. Now here he was in a supermarket surrounded by piles of fruit, and people could just pick the ones that they wanted. And these were ordinary people. They weren't rich and it wasn't a movie set. Up till then he kind of thought that all these things were like movies; they didn't actually exist, they were just props in a movie. But then he realised, oh my God, all that stuff you see in a movie actually exists. I think there were tears in his eyes."



"A little while later, somebody came down the stairs and asks 'who the hell are you'. I explain and say 'I publish the Nintendo version of *Tetris* in Japan'. And he says... 'We never sold those rights to anyone'. Well, holy crap! I had 100,000 cartridges in manufacturing, which means that I've borrowed 2 million dollars from the bank, using all of my in-laws' land as collateral, and it turns out I have to bury those cartridges. I was really screwed... There was no way I could pay them back. So I said 'Listen, I want to talk to somebody about it. And sure enough the next day I was given the third degree for three hours. Again, there were the guys from the ministry, the guys from KGB and there was [*Tetris* creator] Alexey Pajitnov. He was in the room! The ministry knew nothing about the game and the only one who knew anything about it was Alexey. I could actually have a decent conversation with him about it. I was the first guy he met from outside the Soviet Union that actually understood anything about the game at all."

> "I rented an interpreter and a car with a chauffeur. In retrospect, the interpreter was probably KGB"

into a lot of trouble for meeting me. They grilled him! They said, 'how did you get in touch? You must have had secret communication with him.' They bugged his room and listened in on his conversations, to find out how the hell he found me when, actually, he had nothing to do with it."

So how did Henk manage to track down the owners of *Tetris* against such resistance and suspicion? "I rented an interpreter and a car with a chauffeur. In retrospect, she was probably KGB. She knew everything about everything and already knew who I was and what I was looking for. She would have the answer to my questions before I'd even asked them. So, they drove me to the Ministry Of Software on the Thursday, the day after I'd arrived, but she wouldn't go in with me. I said, 'Why not? What are you talking about?' She said, 'You don't have an invitation. You're not supposed to go in there. And I can't go in there.' 'But you're my interpreter', I said. Then I thought 'Well, I didn't come all the way to the Soviet Union, thousands of miles, to be stopped by a door.' So I just walked through that door. I said, 'I want to talk to someone about *Tetris*.'

Henk's' friendship with Pajitnov, and his persistence with Electronorgtechnica, eventually paid off and he returned to Japan with the rights to produce the first officially licensed handheld edition of *Tetris*, which would be programmed by Nintendo. "I came up with the innovation of which buttons to use," says Henk. "I thought that I had to make the interface a certain way, to match the way the PC game worked. The way the PC version worked, you have a left, a right, the middle button is rotate and then the space bar is hard drop. So if you flip that and transfer it to the little Nintendo controller, you've got left, right, pull down to rotate and then the fire button will give you a hard drop. That's how it translates, and I thought that didn't make sense, that the movement of the piece should all be on the left hand and rotation of the

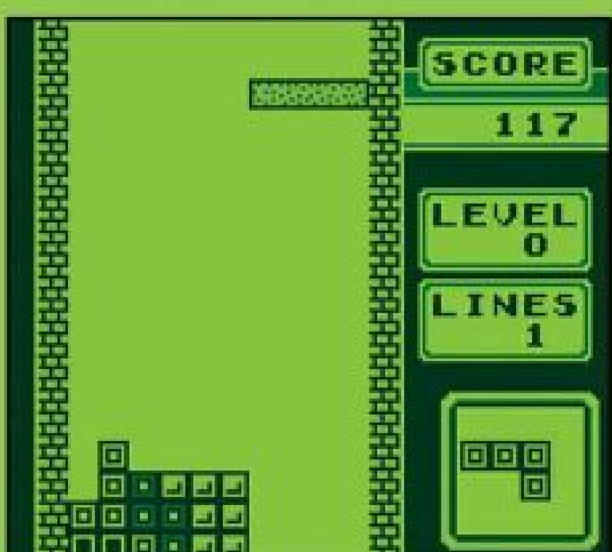
piece on the right hand. I asked my programmers to make it that way but when we sent it to QA everybody hated it. But of course, if you're in the middle of playing a game and all of a sudden the gas pedal and brake are reversed then nobody can handle that. And, in fact, that's exactly what Nintendo did, putting the movement and drop on the D-pad and left and right rotation on the two buttons. They also added a soft drop to the D-pad. And that was one of the complaints about it, that you'd move left and right and every once in a while accidentally hit the down button and cause a hard drop. But Nintendo added the soft drop so it would only drop a little faster rather than instantly. You could still control it after hitting down by accident."

Porting *Tetris* to Game Boy should have been a simple affair, but there was another complication. "The approval was meant to be done on a Friday and then the game would go to mastering on the Monday, so there really was no time," recalls Henk. "So on Friday I get the game and I'm playing, on a Game Boy, and it feels like one of the pieces is coming up more than the others. It's supposed to be random, a one in seven chance of each piece coming up at any given moment. So I told my QA guys, 'Give me the statistics on how often each piece comes out.' And, sure enough, it turns out that one of the pieces is coming out twice as often as the rest. So I called Nintendo and said, 'This is unacceptable. The Russians are never going to allow this!'

What Henk wasn't telling Nintendo, is that the Russians didn't actually require final approval. "I pretended, because the rights came from me, that I had to get approval from the Russians, which I didn't because no one there knew a damn thing, and we didn't have the time to send them the game then wait for a reaction to come back. But they didn't understand the game anyway, so it didn't matter." Instead, Henk relied on his own instinct. "There really is no other game that requires a real random number generator," he continues. "If one too many stars come up in *Mario* nobody is ever going to know it was a mistake, it just seems like the game was designed that way, but in *Tetris* you'd know. So Nintendo's programmers came to my office in Yokohama from Kyoto, two guys come in and we sit there and think of how to fix it. For them to write a new random number generator on Saturday, ready for mastering on Monday was unthinkable. So I said, 'It's piece one that's coming up twice as much as the rest, so this is what you do. When you roll a one it means it's piece one. The next time you roll a one, you add one. The next time you roll a one, you add two, and so on. That way the error in the random number generator will be spread across all the pieces.' So that's what they did and then you couldn't tell that it wasn't random. So I approved it and they went back very happy."

And with that, one of the greatest handheld games of all time was completed. There's a little epilogue to Henk's *Tetris* story; the staggering decision to give away this fantastic game for free, to everyone in the west who bought a new Game Boy. "I think I was in Redmond talking with Nintendo in January and it seemed like Game Boy was the best platform for *Tetris*, they were made for each other. [Nintendo's US president] Minoru Arakawa said 'Why shouldn't I pack in *Mario*?' I said 'Well if you want to sell Game Boy to little boys then pack in *Mario* but if you want to sell Game Boy to everybody then pack in *Tetris*.'"

And that's exactly what happened. Game Boy and *Tetris* went hand-in-hand, and with sales of 30 million, they put both game and hardware into the collective consciousness of a generation. Henk Rogers now runs the Tetris Company alongside Alexey Pajitnov, licensing *Tetris* and standardising its rules for future generations. 24 years after Henk first got hooked on *Tetris*, it seems he still can't put it down.



» [Game Boy] You're playing the music in your head right now, aren't you?

Block Rocking Beats

Henk Rogers explains the origin of that catchy Tetris theme tune

"THE THING ABOUT music is that there are rights issues [with licensed tracks] or you have to create something good enough, so I told my guys 'Find me a Russian folk song', because those things are free, they're public domain. And the fact that they've lasted hundreds of years means that they must be good. And yet people in the west haven't heard them as much as the people in Russia have, so let's give it a shot. We tried it and it was okay, people didn't object to it. And it ended up becoming a 'have to have' together with Tetris; people started identifying the game with that music, which is a good thing. But it turns out that they weren't all folk songs. One of them was a soldier singing to his girl while he's fighting, hoping that he'll make it back. If I'd have known what the words were... I had no idea."

» RETROREVIVAL
DEVELOPER SPECIAL

Dangerous Dave

BY JOHN ROMERO, DEVELOPER

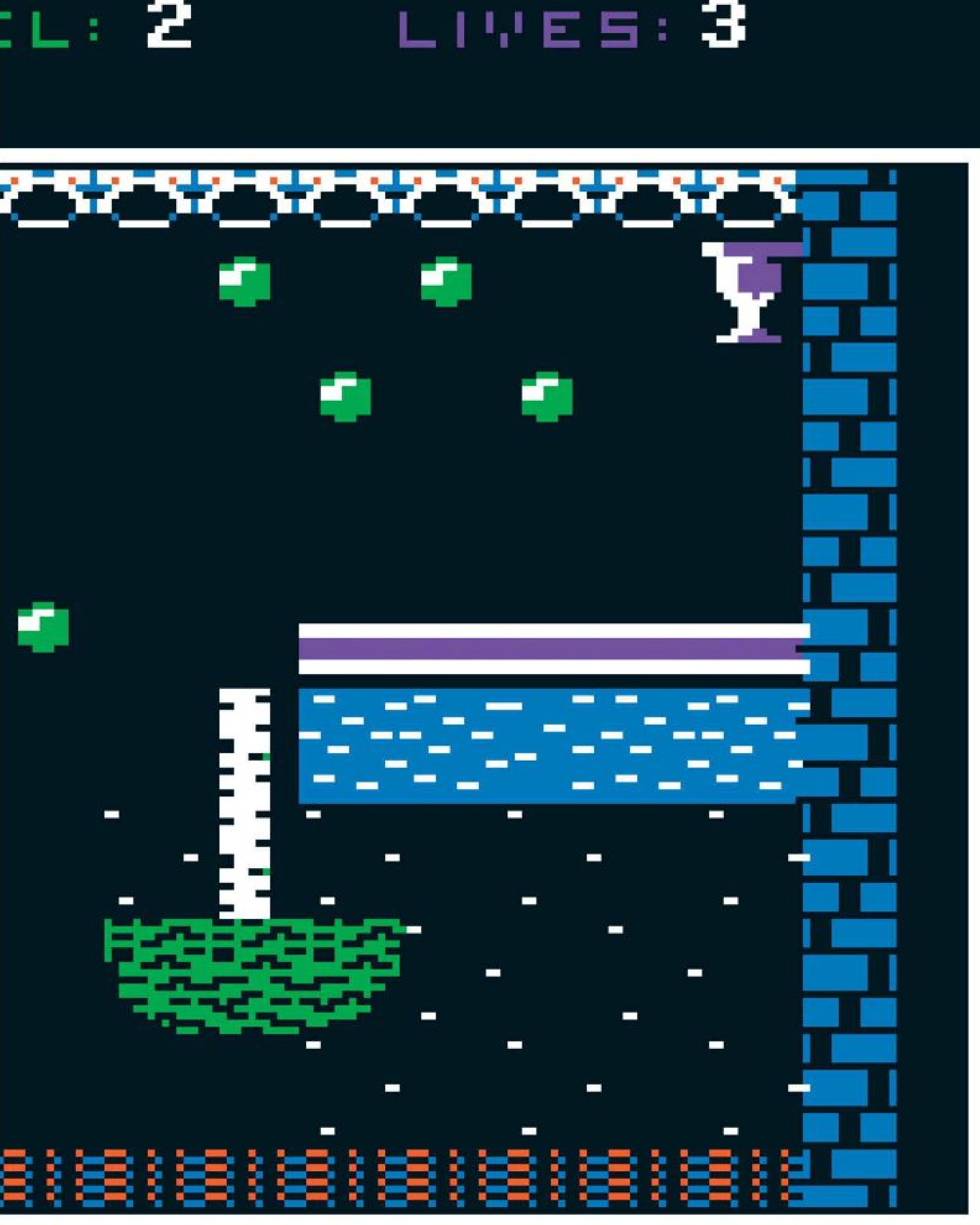


» APPLE II
» UPTIME
» 1988

Back in 1988 I was programming games on my Apple IIe, and only a few years earlier *Super Mario Brothers* came along and changed the universe. I loved *Mario* and the Fall of 1988 just felt like the right time to make a *Mario*-style game, so I came up with the idea of a guy named Dangerous Dave that collects trophies from a deserted pirate's hideout and after ten levels, he wins. I made the game pretty tough, so ten levels felt like a real challenge. I programmed the game in 6502 assembly language as an example of how to use my GraBASIC programming language.

It took me about a month to make, but *Dangerous Dave* was well-received, so in 1990 I made a PC version with CGA, EGA and VGA graphics, and all-new levels. It was the first game I wrote in C, as opposed to assembly language. The graphics drawing functions were in 8086 assembly, though. With all the graphics for all three modes, plus ten levels, the game was 73k compressed. This meant it could be played on all kinds of low-end computers. In fact, because I used no sound hardware (just the built-in speaker) the audio works on all Windows computers (even Win2000) natively without DOSBox.

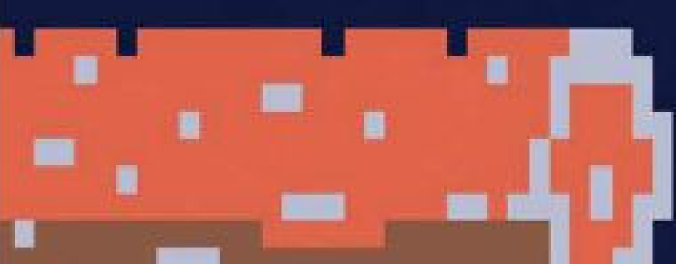
After release, the game proceeded to be copied all around the world. Eventually, there were ten *Dangerous Dave* games based off my original Apple II version, as well as my 1991 id Software sequel, *Dangerous Dave In The Haunted Mansion*. Even now I still get fan mail about it, with many of the emails being about how they played the game when they were a kid. Man, I feel old! *


L: 2
LIVES: 3



Leap Years: The history of FROGGER

KONAMI STRUCK GREEN OIL IN 19 1 WITH A COIN-OP ABOUT A FROG THAT STRUGGLED TO SWIM BUT WAS CLEVER ENOUGH TO EXECUTE THE GREEN CROSS CODE BETTER THAN DAVID PROWSE. NOW OVER 30 YEARS OLD, WE LOOK BACK AT THE FROGGER SERIES. WE GUARANTEE IT'LL BE RIBBETING...

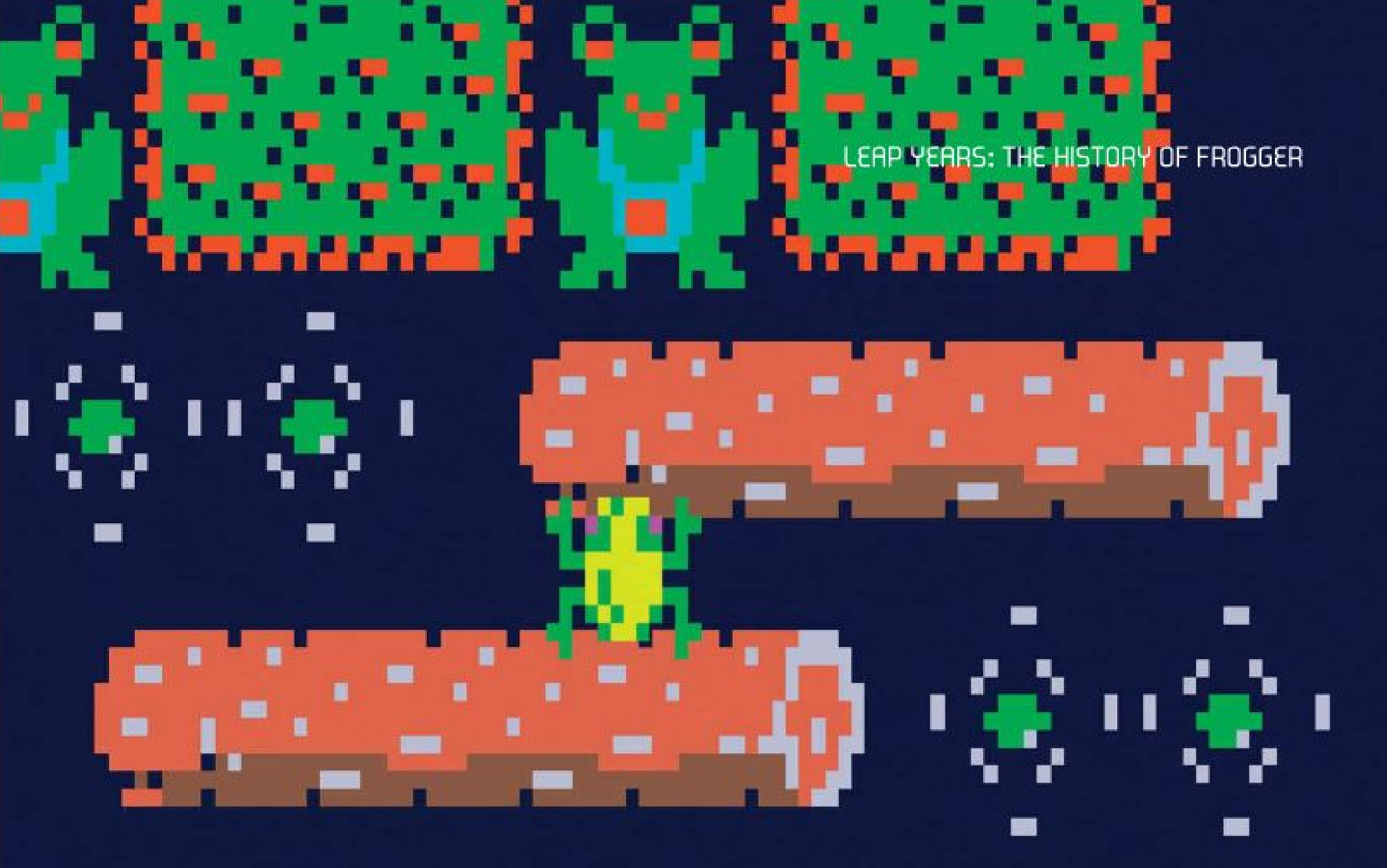


The exact moment we entered the golden age of videogames is often debated. Many place the entry point around the early Eighties, pinpointing 1981 as the exact date, and this is because 1981 was a great year for games. It marked the release of some of the most classic, revered and popular coin-ops ever created, but it also represented an important turning point for the medium. While hugely popular 1980 games such as *Missile Command* and *Defender* – landmark shooters with challenging gameplay and unique controls to test the skills of experienced gamers – showed us how far games had come, 1981 showed us where videogames were heading: a colourful era of original titles designed to be accessible to everyone, of any age and ability.

Moving away from these stern themes of space, racing and shooting, many arcade games began exhibiting quirkier gameplay and colourful cartoon graphics. As a result, new demographics began playing them, and this, in turn, fuelled their popularity and profitably further. *Pac-Man* is largely credited for kicking off this trend in 1980, its eating theme famously selected by its creator, Toru Iwatani, because he felt food was something that would appeal to female gamers.

Even with this in mind, to say it puzzles the brain why *Frogger* became such a massive hit back in the day is a fair question. *Frogger's* premise hardly sounds the most exciting of videogame scenarios: help a frog cross a dangerous stretch of five-lane motorway and then negotiate an equally perilous





stretch of croc-infested river. It basically boils down to helping a frog cross the road. The original title with which Konami wanted to christen *Frogger*, before the game's publisher, Sega, intervened and saved the day, does a pretty good job of explaining how dull a concept that could quite easily have been: *Highway Crossing Frog*.

But *Frogger* was anything but boring. The playing field was an ever-shifting grid of obstacles and danger, and the assured grid-based movement was simple and uncomplicated. It was a game that required good timing and judgement more than dexterity, and that made it accessible to beginners and gamers of any skill. Moreover, being responsible for one of the diminutive green creatures, as odd as it sounds, may have also contributed to its success, as it offered a more emotional attachment for players. When a ship blows up in a videogame, you are saved the sight of the inside of the painful coffin of fire and crumpled, molten metal for the poor virtual pilot. In *Frogger*, you couldn't escape the grim effects of your actions; collision with a speeding hunk of metal resulted in dead frogs and you left feeling the effects of your failings as you witnessed the really quite abstract death animation, which showed your frog turn into a bloated purple ball before finally becoming a pee-coloured skull and crossbones.

As videogames grew in popularity throughout the Eighties, so videogame merchandising began appearing, and *Frogger*'s success made it an obvious target. The slippery green star got his own board game courtesy of Milton Bradley, which was actually a fairly decent replication of the videogame, as well as a record by musical duo Buckner & Garcia titled *Froggy's Lament*. It featured on their 1982 concept album *Pac-Man Fever* and contained the inspired lyrics: 'Froggy takes one step at a time. The way that he moves has no reason or rhyme.'

Frogger the character appeared on US telly too, alongside fellow gaming celebrities Donkey Kong, Q*Bert, and Pitfall Harry, all of which starred together in the 1983 CBS-produced animated show *Saturday Supercade*. In the show, Frogger spoke and was portrayed as a newspaper reporter who had to venture out looking for decent news stories while under constant pressure from his boss. But while *Pac-Man* and *Donkey Kong* garnered similar levels of pop culture attention, one thing separating *Frogger* from its peers is that it didn't receive an arcade follow-up. Well, not straight away. Instead he got a late 1984 home sequel by way of *Frogger II: ThreeeDeep!*, which was released for the ColecoVision, Atari 2600, 5200 and C64.

Frogger II: ThreeeDeep! stuck close to the formula of the arcade original, but its level design was slightly more abstract. Clearly its designers were struggling to think up ways to add variety to *Frogger*'s simple dodge-the-traffic concept, and this resulted in a schizophrenic trio of levels that contradicted their own set of rules. For instance, the first stage, which the manual explains is set underwater, saw Frogger able to move freely in water while avoiding contact with fish and alligators in order to safely reach the logs at the top of the screen. On the second stage, water became deadly again, and our hero is now inexplicably able to hitch a ride on the same alligators he had to avoid in the first stage as he tries to hop aboard a rubber dinghy that is being towed by a tugboat. The final stage is the wackiest of

them all. Set in the clouds, it sees Frogger trying to hop through the sky, avoiding birds and dragons. We won't even try to get our heads around why he would be doing this.

After a long absence from gaming, *Frogger* finally resurfaced in arcades. *Ribbit!*, which was released by Sega in 1991 to celebrate the series' tenth anniversary and marked its final arcade outing – unless you count the *Frogger* ticket-redemption machine released by Eugene Jarvis's company, Raw Thrills, last year. The notable thing separating the gameplay of *Ribbit!* and its arcade parent is the fact that the objective changed focus to helping Frogger eat up all the flies, wasps and sometimes even crabs that appear on screen. The stages now took the form of single-screen arenas while the gameplay had more of a mini-game vibe to it – one level, for instance, sees you collecting fish while being cautious of getting drowned by waves lapping against the shore. Apart from this, it was classic *Frogger* gameplay all the way.

Taking another giant leap between subsequent releases, 1997 saw the release of the next title. Released on the PC and PlayStation, *Frogger* was a neat 3D revamp of the original, featuring a nice angular art style and gameplay that served up a real challenge for experienced players. The next year and *Frogger* made a peculiar backwards leap to the Genesis and SNES. Despite coming enshrouded in the same PSone *Frogger* box art, all the games differed. Genesis owners received a decent port of the original 1981 arcade game, which, pushing 17 years old by this point, likely went down with the kids like garlic-flavoured dog burps, while Super Nintendo owners received a colourful revamp of the original. The games do hold the honour, though, of being among the very last released for both 16-bit consoles.

As we waved a final farewell to the Mega Drive and Super Nintendo, so CD-ROM-based consoles and PC gaming came further to the fore. The PlayStation *Frogger* remake was quite a big success for its publisher, Hasbro – according to some sources, it shifted over 3 million copies in the US, outselling hits like *Driver* and *PaRappa The Rapper* – so as a result a sequel was duly greenlit. Of course, realising that it couldn't really resell the revamped *Frogger* concept again so quickly, Hasbro, with the help of Blitz Games, came up with a new direction for the series.

The result was *Frogger 2: Swampy's Revenge*, a sequel that melded the look of a 3D platformer with the classic dodge-the-hazards gameplay. The main aim was to successfully get Frogger to the end of each stage in as fast a time as possible, with a second goal to save five baby frogs scattered around each stage – a concept that was first applied to the sadly unreleased *Frogger* prototype for the Game Gear. The levels had a single clear route through, similar in approach to a board game, but the path was loaded with dangers and obstacles to avoid. Many of the stages also referenced popular culture – one minute you're helping Frogger escape *Indiana Jones*-style booby traps; the next to dodge obstructions and enemies in a luminous, *Tron*-style level.

"Frogger II: ThreeeDeep! sees Frogger trying to hop through the sky, avoiding birds and dragons"

In 2000, the same year as *Swampy's Revenge* was released, Konami also put out the Game Boy Color sequel *Frogger 2*, a solid follow-up that served up more classic *Frogger* gameplay. The most notable aspect of the game is it allows players to swap control between Frogger and his girlfriend Lily, although neither seems to have any unique attribute beyond their appearance. As well as this,



» [GBA] If you like *Frogger* to have a story and play like a bad *Zelda* clone, you can't go far wrong with *The Forgotten Relic*.

Forgotten Froggers

A couple of lesser-known Frogger games to find release, and one that didn't



KONAMI COLLECTOR'S SERIES: ARCADE ADVANCED

Platform: GBA

Two versions of *Frogger* can be found on this arcade compilation. It comes with a straight arcade port, which differs by featuring a slight bit of scrolling to cram the vertical screen action onto the GBA's display, and a cartoon revamp hidden away but unlocked by inputting the famous Konami code (up, up, down, down, left, right, left, right, B, A) on the game menu. The new version looks really nice, but the odd side-on perspective takes a bit of getting used to and doesn't offer the clearest way to plan your dash to your solace.

KONAMI KIDS PLAYGROUND: FROGGER HOP, SKIP & JUMPIN' FUN

Platform: PS2

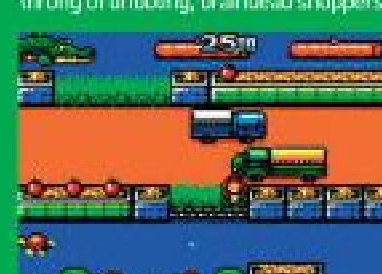


Enforcing the belief that *Frogger* was becoming a franchise that Konami was trying to mould into something to appeal to the Mr Tumble crowd is this unusual PS2 release. This title is effectively a series of colourful mini-games set against pictures of *Frogger*, or a swamp. Clearly it was designed to eke some additional worth from the dance mat peripheral released for the PS2 ports of Konami's *Dance Dance Revolution* series. If you really, really like *Frogger*, and really, really like that dance mat peripheral, and are around six years old, then you might garner some enjoyment from it.

FROGGER PROTOTYPE

Platform: Game Gear

Falling victim to the Sega licence expiring, this wonderful sequel sadly never saw official release. That's a shame, as it would have been the first sequel to do something really interesting with the concept. Here you help Frogger scoot around, rescuing your fellow frogs and returning them to their home at the base of the screen. In essence, it's the *Frogger* equivalent of *Dead Rising*, except it's more entertaining and the computer-controlled frogs are far more intelligent than the dribbling, brainless shoppers you must escort to safety against the throng of dribbling, braindead shoppers.



» [Arcade] *Ribbit!* is a unique play on *Frogger's* gameplay. It's also the only game we know of that mixes frogs with cogs.





» [GameCube] Even *Frogger* hasn't been able to escape the age old videogame tradition of collecting giant gold coins.

a secondary optional goal was introduced to the gameplay in the form of collecting diamond pick-ups scattered around the stages, adding a bit of replay value to proceedings.

In 2001, Konami introduced a spin-off series called *Frogger's Adventures*. Three games make up the series and all share pretty similar gameplay. The first two were GBA exclusives, *Temple Of The Frog* (2001) and *The Lost Wand* (2002), while the third and final episode, *The Rescue* (2003), appeared on the GameCube, PC and PS2.

The GBA titles were bright, colourful, top-down platform/puzzle games clearly aimed at kids, despite the fact that they were pretty challenging. Their gameplay required players to study the levels and note the motion of moving platforms and fixed patrols of enemies to carefully nudge Frogger to safety, while stage completion in *Temple Of The Frog* rested on collecting a number of elementals, an idea that was dropped for the sequel. The stages in both games were all themed, tied together with a passable story: in *Temple Of The Frog*, Frogger has to hop through various stages based around four elements to save his swamp, and in *The Lost Wand* he must find the scattered shards of a wand by visiting magical worlds. Boss fights in *The Lost Wand* were also introduced. Well, categorising them as fights is a stretch, as they're more neat timing challenges for Frogger, with tasks such as stealing a shard of wand using his sticky telescopic tongue from a dozing dragon as squawking birds try to disturb him. In *The Rescue*, the concept and gameplay follows a similar path, but appearing on more powerful machines naturally means it looks better. Its level design also leant slightly more towards puzzle-solving than simply dodging obstacles and enemies.

In the same year that *The Rescue* was released, Konami could be seen to further experiment with the *Frogger* franchise, but it was to forgettable effect. The genre-hopping began with the side-on GBA platformer *Frogger Advance: The Great Quest*, a side-scrolling platform game that bore a very, very loose visual likeness to the *Donkey Kong Country* games – it has similar 3D-ish character models, though not as pretty. Add forgettable peripheral characters to converse with, and our hero acquiring a few new skills during his quest, such as an awkward double jump and the ability to puff his chest up to float gracefully from jumps, and it's your standard platform game starring an anthropomorphic animal. *Frogger Advance: The Great Quest* isn't terrible, just terribly average, but it is notable for being the first *Frogger* game to shun the grid-based movement of previous games.

In spite of sharing a similar title and the same plot – Frogger is looking for a princess to rescue so he can force his lips on her on the off chance that he might turn into a handsome prince – the PS2 and PC game *Frogger: The Great Quest*, released the following year, was a completely different game. It was a 3D platform/adventure romp that saw our amphibian hero doing a bad *Mario 64*/*Banjo-Kazooie* impression, complete with collect quests, power-ups, boss battles and forgettable sub-characters. Sadly,

Frogger in Hopular Culture

Such was its popularity, following its release Frogger soon found itself as the focus of cameo appearances, references and merchandise. We take a look at our favourites

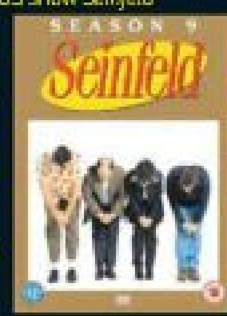
MERCHANDISE

As well as *Donkey Kong* and *Defender* (also released in 1981), Milton Bradley released a board game adaptation of *Frogger*. It's basically a versus game that sees two players racing to get three frogs from their side of the board to their opponent's. With logs and traffic to negotiate, it's pretty faithful to the original.



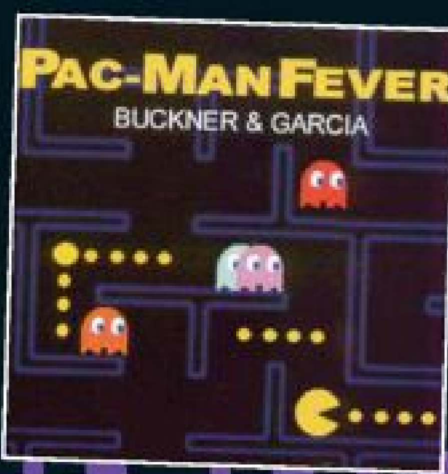
TELEVISION

An episode of the hit US show *Seinfeld* featured an episode entitled 'The Frogger'. In it, George is trying to purchase a *Frogger* arcade machine from a shuttering pizzeria. The problem is he set the high score years ago, and is concerned that if he unplugs the machine it will be wiped. The episode ends, appropriately, with the machine getting destroyed by a truck as he tries to cross the road with it.



MUSIC

Musicians Buckner & Garcia were inspired by *Frogger* when writing their song *Froggy's Lament*. It appeared on their videogame-inspired concept album, *Pac-Man Fever*. Michael Jackson also owned a *Frogger* arcade machine, and it was one of the many cabinets that went up for auction just before his death.

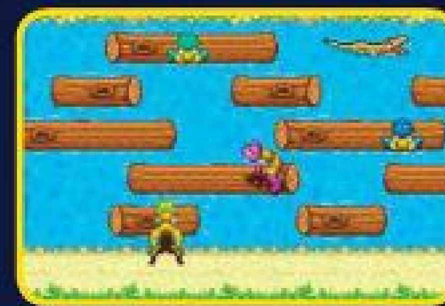


repetitive, moss-shaded levels and clunky controls make it a pretty dreary experience and not a patch on the games that it's clearly trying to imitate. It is great, however, if you ever want to find out how many different shades of green there are.

Possibly coming to realise that allowing Frogger to move freely took away much of what made the character unique – after all, frogs hop to get around, and what they don't do is get up on their hind legs and walk off on adventures – the next release, *Frogger Beyond*, reverted back to methodical platform gameplay and simple nudge controls. Taking place over eight distinct worlds, *Frogger Beyond* saw Frogger coming of age and having to endure some kind of deadly rite of passage. It's an passable sequel, better than *The Great Quest*, and introduced a smattering of new power-ups to keep things interesting, including Ghost Frog (invisibility), Feeding Frenzy (allows him to eat his foes) and the imaginatively titled Speed Up (which, uh… sped him up a bit).

It's at this point we start getting into some murky waters for the *Frogger* series. In 2003 the GBA got its final *Frogger* game in the form of *Frogger's Journey: The Forgotten Relic*, a top-down *Zelda*-esque RPG with tenuous links to the series. It baffles the brain why Konami felt the need to release a *Frogger* RPG, especially considering that one of the worst aspects about the previous story-based games was their actual stories. Therefore, it comes as little surprise that a *Frogger* game with a main focus on telling a story fails hard. Clearly trying to return to the Frogger the adventurer scenario that came to the fore in *The Great Quest*, *Frogger's Journey* looks nice but ultimately doesn't feel like a *Frogger* game, and so the association feels a tiny bit cynical.

In 2005, the *Frogger* series was entrusted to Hudson Soft – not a bad fit, too, considering that the company created the *Bomberman* series, which if you stop and think about it isn't a million miles away from the grid-based gameplay of *Frogger*. But in spite of this magical on-paper pairing, *Frogger: Ancient Shadow* was a disappointment. Released on the PlayStation 2, Xbox and GameCube, it's basically a similar game to the *Frogger's Adventures* series, as it uses a control scheme very close to that of *The Lost Wand* – essentially, you use the shoulder buttons to turn your frog on the spot, while jabbing the D-pad nudges him forward one square. However, while this similar control setup worked quite well in a top-down 2D playing field, it just becomes overly complicated and frustrating when coupled with an additional dimension and the game's twitch, timing-based gameplay. Wrestling with controls and witnessing death repeatedly as a result, this is one to avoid. And if you want to see just what a bad job *Ancient Shadow* does with the *Frogger* legacy, Hudson kindly included the 1981 original on the disc as a bonus to show you.



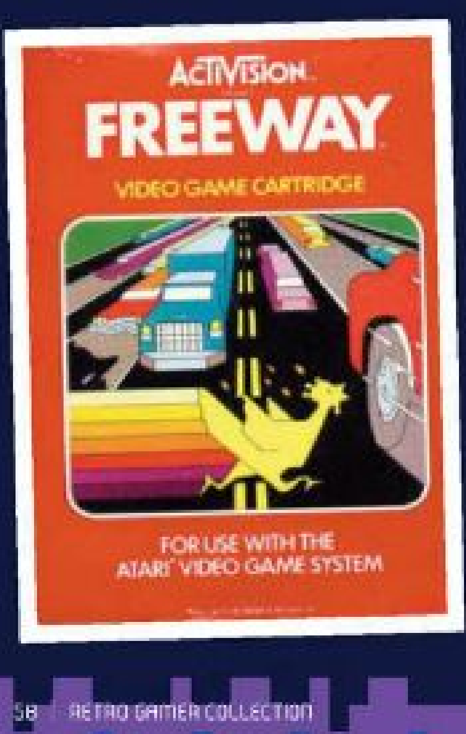
The previous *Frogger's Adventures* series of GBA games contained moments of fun and entertainment, and so the release of the DS marked a perfect new platform for *Frogger* to emigrate to. Konami certainly thought so, wasting no time in getting the series onto the handheld in 2005, the same year it was released in Europe.

The first DS and PSP release in the series was the terribly named *Frogger: Helmet Chaos* and was basically another *Frogger's Adventures*-style affair, but with prettier 3D visuals and more imaginative and larger levels. It also contained a neat 3D remake of the original arcade game that played across the console's dual screens, allowing the verticality of the arcade original.

"The Great Quest is good if you ever want to find out how many shades of green there are"

This was followed up with *My Frogger Toy Trials* the next year. As if its name and box art wasn't a giveaway, it was clearly aimed at kids. It does, however, have a

Which came first: the chicken or the frog?



PRODUCED INDEPENDENTLY AND released the same year as *Frogger*, David Crane's Atari 2600 game *Freeway* is often compared to the traffic-dodging classic, owing to its striking similarities: in *Freeway* your task is to help chickens safely cross ten lanes of traffic. We contacted David to ask him where he found inspiration for *Freeway*, and his thoughts on its similarities with *Frogger*.

"There are many similarities between *Frogger* and *Freeway*. Because of these similarities, I am often asked which came first. In other words: who copied who?

"The simple answer is neither. These two games were developed in secure laboratories 6,000 miles apart, right around the same time frame. So why the similarities? They likely share a similar genesis.

"Ideas for videogames come from many sources. Some spring whole from the strange minds of game creators – to support this I offer *A Boy And His Blob* and his vitamin-depleted planet of Blobolonia – but many come from a game designer's personal experiences.

"The germ for *Freeway* came at [CES] in Chicago. To save a $10 parking fee, a guy had parked a mile from the convention centre, scaled a chainlink fence, and dodged across ten lanes of traffic on Lake Shore Drive. I saw him as he darted in front of the bus I was riding. I remarked aloud to my seat-mate: 'Now there's an idea for a videogame!'

"I developed the game soon after, inspired by the gameplay of one of the earliest electronic games ever created: *Space Race* by Al Alcorn. My game had two men competing to get from the bottom of the screen to the top through ten lanes of traffic, as many times as possible in about two minutes. Three days before the game was to be announced to the public at the next CES trade show, Activision CEO Jim Levy suggested: 'If you change it to a chicken, I could hire someone to wear a chicken suit and run around the convention to advertise the game. Besides, it would also fit the 'why did the chicken cross the road?' joke.' For that reason alone, overnight it went from being a man to an animal, although avid collectors can still find a version of the game showing the man.

"So what was the inspiration for *Frogger*? I have never been told. But is it hard to imagine the game's creator noticing a frog crossing a crowded sidewalk or bike path, trying to reach a lake or pond? Seems likely to me."



stab at the most original story in the series. The meat of the game sees you controlling a young boy who buys a mail-order pet. Expecting to receive something cool, like a chainsaw-wielding puma or a laser-spitting baboon with an armour-plated arse, he's a bit disappointed when a modest little frog arrives instead. What follows is a *Pokémon*-alike tale whereby the boy and his frog participate in a series of challenges against other pet owners. This is bolstered with a smattering of mini-games designed to make use of the DS's touch and microphone functions, including a *Super Monkey Ball*-style game that lets you steer your frog using the touch screen and race across water by blowing into the microphone to propel your frog to the finish line.

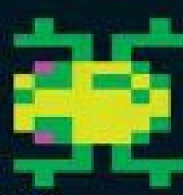
The current hardware generation has seen a fair bit of *Frogger* activity. The confusingly titled 2008 sequel *Frogger 2* was released on Xbox Live Arcade and, as its title implies, was a sort of extremely late arcade-style sequel to the original coin-op game. Visually it is saccharine in game form, but the gameplay sticks close to the original. It also offers a few neat multiplayer modes, including a genius one that allows you and a mate to go head-to-head to complete a stage in the fastest time. A separate downloadable *Frogger* game, *Frogger Returns*, was also released for PSN, WiiWare and DSiWare in 2009. It was essentially an affair in the same vein as PSone *Frogger*, but spoilt by twitchy controls, ropey visuals, a soundtrack of tedious lift music, and an odd elevated behind-the-frog perspective that made it difficult to judge your leaps.

When *Frogger* turned 30 in 2011, Konami celebrated by releasing a flurry of new games. This included the fun iOS and Facebook game *Frogger Pinball*, a surprisingly good virtual pinball game serving up a small selection of tables themed on *Frogger* staples; and a more traditional iOS offering in *Frogger Decades*. The latter was an entertaining sequel split across ten levels, divvied up between a selection of themed worlds, with the simple objective of getting Frogger safely from start to finish by avoiding obstacles and dangers one tile at a time. The levels in the game slowly auto-scroll, adding slightly to the tension, and there's also a neat endurance mode to see how far players can reach in a never-ending stage. *Decades* was followed by the recent *Frogger 3D* for the 3DS. We've yet to get our hands on the game as it hasn't been released in Europe at the time of writing, but the critical reaction so far to the US and Japanese releases hasn't filled us with confidence. It seems to use the same lame behind-the-frog perspective used in *Frogger Returns*, and adding a 3D filter to this – though you can, of course, opt to turn it off if it's particularly galling – is surely a recipe for frustration.

While the *Frogger* series has dipped its toe in different genre pools and admirably tried out new ideas to stop it from looking and feeling tired, looking back at the series shows that the very best entries have been those that get the basic appeal of *Frogger*: solid controls and simple, addictive gameplay with that 'one more go' quality in spades. That one of videogames' simplest concepts is still going after 30 years is an impressive achievement and a tribute to the lasting power of the golden age of gaming.

The Frogger Basics

Frogger is such a complicated game that we felt we really ought to break down its elements to explain this 1981 gaming minefield



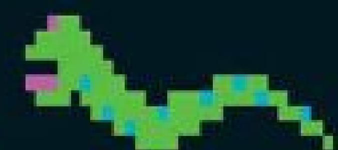
Frogger
This is our hero. Your ultimate goal is to get five of him home safely. He's green, can move in four directions, and that's pretty much it.



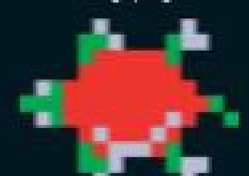
Home
This is your goal. Get your five frogs in within 60 seconds to finish the stage. Timing it so you arrive when a fly is inside will earn you extra points.



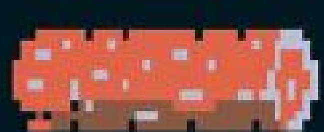
Crocodiles
These killing machines will either sit in Frogger's homes or hide in the water. Hitch a ride on their backs or watch for their gaping mouths.



Snakes
First appearing on level 3, where they patrol the pavement and logs, snakes are deadly to Frogger and cannot be jumped over.



Turtles
Frogger can use the turtles as a temporary platform. Be careful, though, because they take umbrage by diving underwater.



Logs
These are your friends. Safe, dependable and solid, use them to gradually make your way across the treacherous water.



Lady frog
Look out for purple frog. She appears on the logs and will hitch a ride on Frogger's back to get home, earning you bonus points.



Traffic
This is the first danger Frogger has to negotiate. As the game progresses, the traffic starts to get denser and faster. This then loops every 5 stages.



» [GBA] Frog versus chicken. Is this a subtle reference to *Frogger* and the Atari 2600 game *Freeway*? We seriously doubt it.

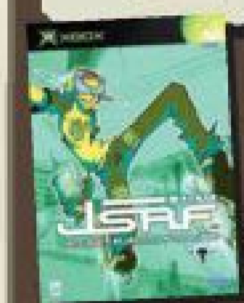


» [PS2] If you want to know how boring Frogger's life is – which might explain why he risks his life crossing roads – then play *Frogger: The Great Quest*

Future Classic



Modern games you'll still be playing in years to come



INFO

- **Featured System:** Xbox
- **Year Released:** 2002
- **Publisher:** Sega
- **Developer:** Smilebit
- **Key People:** Masayoshi Kikuchi (director), Kazuhisa Hasuoka (chief programmer), Hideki Naganuma (music)

GO DEEPER

- *Jet Set Radio* was rumoured for an update on Nintendo's Wii, but such a version never materialised.
- The Latch Brothers, Guitar Vader and BS 2000 are just a few of the artists featured on JSRF's soundtrack.



JET SET RADIO FUTURE

It was the sequel that should never have happened, but Sega went ahead and released it anyway. We grab our skates and look back at one of the best sequels to ever hit Microsoft's Xbox

THE BACKGROUND

Jet Set Radio was one of the Dreamcast's most exciting and innovative games. With stunning cel-shaded visuals and a killer soundtrack, it depicted graffiti as an art form and proved that, when it came to innovation, Sega remained a force to be reckoned with. *Jet Set Radio* (or *Jet Grind Radio*, as it was known in the States) proved an instant hit with those who played it, mainly because there was nothing else quite like it on either the Dreamcast or any other console at the time. It's worth remembering that upon *Jet Set Radio*'s original release, cel-shading was a relatively new rendering technique.

Jet Set Radio also courted controversy, with the game falling foul of San Francisco's mayor, who was attempting to abolish graffiti in the city while Sega held a 'Graffiti is Art' contest just a few short blocks away. The winner went on to win $5,000.

Sadly, despite attracting a cult following, *Jet Set Radio* wasn't a hit, and it appeared that the Dreamcast would be its final resting place. Sega had other ideas, though, and during the 2001 Tokyo Game Show it announced that *Jet Set Radio Future* would be released exclusively on Microsoft's Xbox.

Jet Set Radio Future was announced alongside new iterations of *Sega GT*, *Panzer Dragoon* and the former Dreamcast title *GunValkyrie*, further fuelling rumours that Microsoft had been trying to secure Sega as an exclusive first-party developer.

THE GAME

When *Jet Set Radio Future* was released in February 2002, it polarised fans of the original, mainly because Sega had made a number of significant changes to the core gameplay mechanics of the original Dreamcast game. The biggest difference was in the ease of tagging. In the Dreamcast original, you created your graffiti tags – used to show your dominance over rival skating gangs – by twisting the analogue stick in increasingly complex patterns to simulate the shaking of a spray can. This in itself created a risk/reward system, because you had to stand still to spray, allowing the chasing police to potentially capture you. Graffiti spots came in three different sizes as well, meaning you'd have to constantly return to the same location to complete your work while you shook off dogged pursuers. *Jet Set Radio Future*, on the other hand, was more interested in

Things of note











Music man

Hideki Naganuma's marvellous tunes add massively to *Jet Set Radio Future*'s atmosphere, as his unique mix of funk, soul and Japanese techno really pumps you up.

Double up

Both *Jet Set Radio Future* and *Sega GT 2002* were released together in a special double pack. This disc also plays on Xbox 360s, with a few slowdown issues.

Jet Set Radio HD

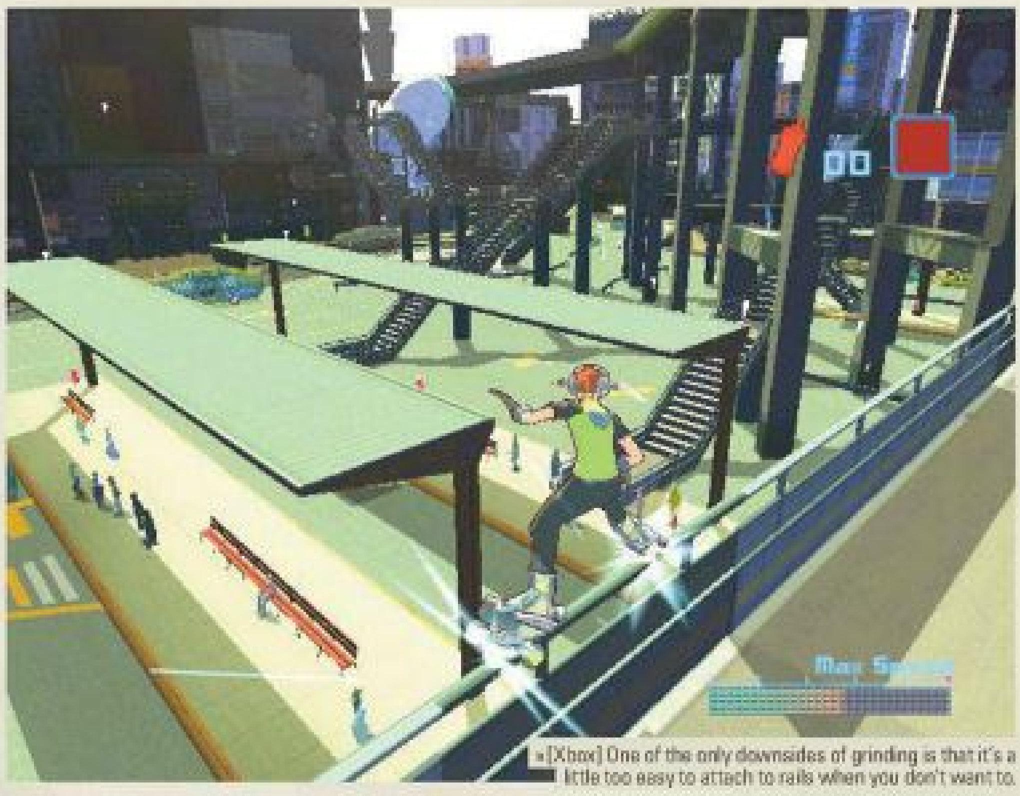
Sega has finally announced that the original *Jet Set Radio* will be appearing on PSN, PC and Xbox Live Arcade. Hopefully this means we'll get *Future* as well.

Tag 'em and bag 'em

Although you could still create your own graffiti tags, the Xbox didn't allow you to upload them online for others to use, as was possible in the Dreamcast original.

Multi-mayhem

Jet Set Radio Future features multiplayer modes that range from completing a lap before your opponents to keeping hold of a ball for as long as possible.



» [Xbox] One of the only downsides of grinding is that it's a little too easy to attach to rails when you don't want to.

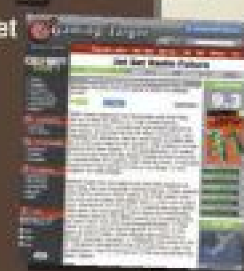


» [Xbox] There are a motley selection of characters in *Future*, 13 of which are secret.



What the press thought

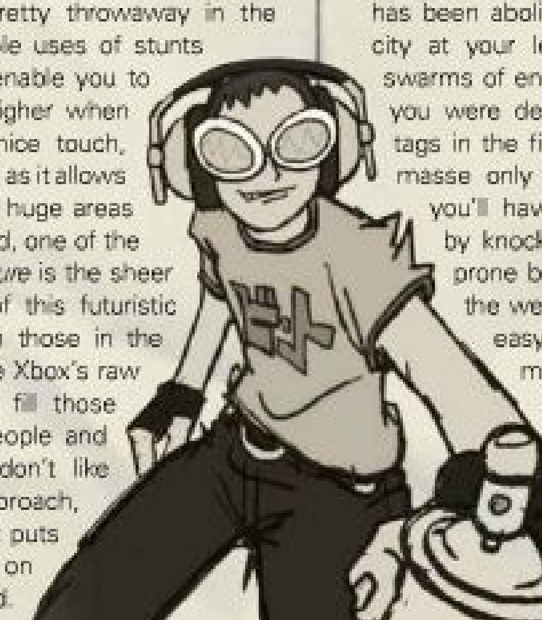
Gaming Target
Score: 9.3/10
"*JSRF*'s gameplay is fun and extremely addictive, but unfortunately it's not without its faults."



GameSpot UK
Score: 8.7/10
"Despite a few rough edges, *Jet Set Radio Future* manages to shine because of its addictive, original gameplay and its stunning graphics."

keeping the player on the move, so a simple press of a trigger was more than enough for your oddball crew of characters to do their thing, regardless of the size of the area you had to respray.

There's a far greater emphasis on grinding too, and more of a need to use tricks. Though present, the trick system was pretty throwaway in the original game, but multiple uses of stunts in *Jet Set Radio Future* enable you to move faster and jump higher when using half-pipes. It's a nice touch, particularly when grinding, as it allows you to move through the huge areas far more efficiently. Indeed, one of the other nice touches of *Future* is the sheer depth of it. The areas of this futuristic Tokyo are far larger than those in the Dreamcast game, and the Xbox's raw power enabled Sega to fill those streets with far more people and vehicles. While purists don't like this new 'bloated' approach, we actually prefer it, as it puts a far greater emphasis on exploring the vibrant world.



We also prefer the general structure of *Future* to the original. The core gameplay is effectively the same – rival gangs are taking over Tokyo and your gang, the GGs, are trying to reclaim territory – but it's a lot easier. This is mainly because the tight time limit that featured in *Jet Set Radio* has been abolished, allowing you to explore the city at your leisure. Another difference is the swarms of enemies that would attack you while you were desperately trying to complete your tags in the first game. Enemies now attack en masse only in certain marked off areas, and you'll have to defeat all of them, typically by knocking them down and tagging their prone bodies, to continue. This is perhaps the weakest addition to *Future*, as it's too easy to dispatch enemies and lacks the manic urgency that was present in the Dreamcast original.

Ultimately, *Jet Set Radio Future* is more of the same great game, only slightly easier, more accessible and more refined – something we're perfectly happy with.

WHY IT'S A FUTURE CLASSIC

Jet Set Radio Future remains an excellent game, with a structure that's every bit as elegant as its stunning cel-shaded visuals. Yes, Sega made concessions in certain gameplay elements, but they were never at the expense of fun, and fun is one thing that *Jet Set Radio Future* has in abundance. Fuelled by the same style of music – a diverse mixture that included Japanese techno, funk, acid jazz and rock – that powered the original, and featuring plenty of fast-paced action, it's a truly enjoyable title that will cause you to play with a big smile across your face. It could be argued that, by making the sequel more accessible to newcomers, Sega lost some of the original magic that made *Jet Set Radio* feel so special, but we really don't accept that this is the case.

For many, Sega was at its most innovative during the Dreamcast years, while Xbox releases like *Panzer Dragoon Orta*, *ToeJam & Earl III: Mission To Earth* and *GunValkyrie* proved that it was still happy to take risks. *Jet Set Radio Future* may be over a decade old now, but age has done nothing to diminish its beauty, style or gameplay.



NINTENDO ENTERT





We take a look at the console that sold over 60 million units, launched countless franchises that are still around today, and dragged the American games industry back from the brink of oblivion. No wonder it's a prime collectable…

» **Manufacturer:** Nintendo » **Models:** NES/Famicom » **Launched:** 1983 (Japan, as Famicom), 1985 (US), 1986 (Europe) » **Country of origin:** Japan

AINMENT SYSTEM

Nintendo Entertainment System™ NES Version: The Collector's Guide



» There are numerous hardware bundles out there, from *Super Mario Bros 2* to the ever-popular *Super Mario Bros* and *Duck Hunt* combo.



» With its roots in 8-bit micros and their open publishing models, Codemasters wasn't initially keen on bending to Nintendo's control.







Why it's collectable

In 1983, Nintendo unleashed one of Japan's finest products to date. The Family Computer (Famicom) was the latest 8-bit console to be released, and it would become the bestselling system available by the end of 1984. Upon its US launch, the rebranded Famicom, the Nintendo Entertainment System (NES), refuelled the country's dying videogame industry. Homeward bound, however, what did Europeans have to get excited about with the iconic console? It certainly wasn't the lack of localised releases, nor the fact that Nintendo really took its time delivering what the rest of the world was already talking about…

Prior to the console's European release, gamers had been drowning in an ocean of low-quality software. Atari had exhausted the 2600 with just about everything its dated hardware could handle, while home computers began to suffer from a heavily saturated market of homemade releases. Nintendo was aware of these issues and proceeded to offer gamers the lifeline they had been crying out for. Not only did the NES sail in with state-of-the-art visuals and a stunning audio chip, but also Nintendo's Seal of Quality. This restricted developers to no more than five games for the system per year, ensuring that focus was placed on quality, not quantity.

With such a huge focus on hosting software of the highest merit, it comes as a real surprise how many games were made available. An incredible tally of over 1,000 cartridges were distributed for the Famicom. A large majority of these, among a wealth of exclusive additions, went on to make up the 700-plus games in the American NES library. Europe, however, had to make do with just shy of 350 licensed releases. This deficiency of cartridges in PAL territories encompassed several big losses, including *Final Fantasy*, *Dragon Quest* and even the sixth outing of *Mega Man*. Despite a diminished selection, adoring fans from all over the world have begun to home in on the handful of exclusive PAL localisations attainable. To name a few, these include a solid port of the arcade classic *Rodland*, the elusive Metroidvania title *Ufouria*, and Konami's take on a Biblical game with *Noah's Ark*.

In order to aid gamers wanting a better grip on the on-screen action, countless peripherals, which took gaming in previously unimaginable directions, began to see mass manufacture. While many of these offered little functionality in the way of gameplay, some have since become an integral part of game culture. ROB (Robotic Operating Buddy), a mechanical being who took commands as player two, and the Power Glove, a garment-turned-control-pad that supposedly placed precision into the palm of your hand, have both become highly desirable items, despite their limited usability. While these are the premium offerings, the NES has its fair share of laughable accessories. The bizarre Laserscope headset, for instance, was intended for use on flight simulation games, requiring the player to self-consciously shout 'Fire' every time an enemy flew into sight. Overall, the arrival of the revolutionary console brought along many ambitious



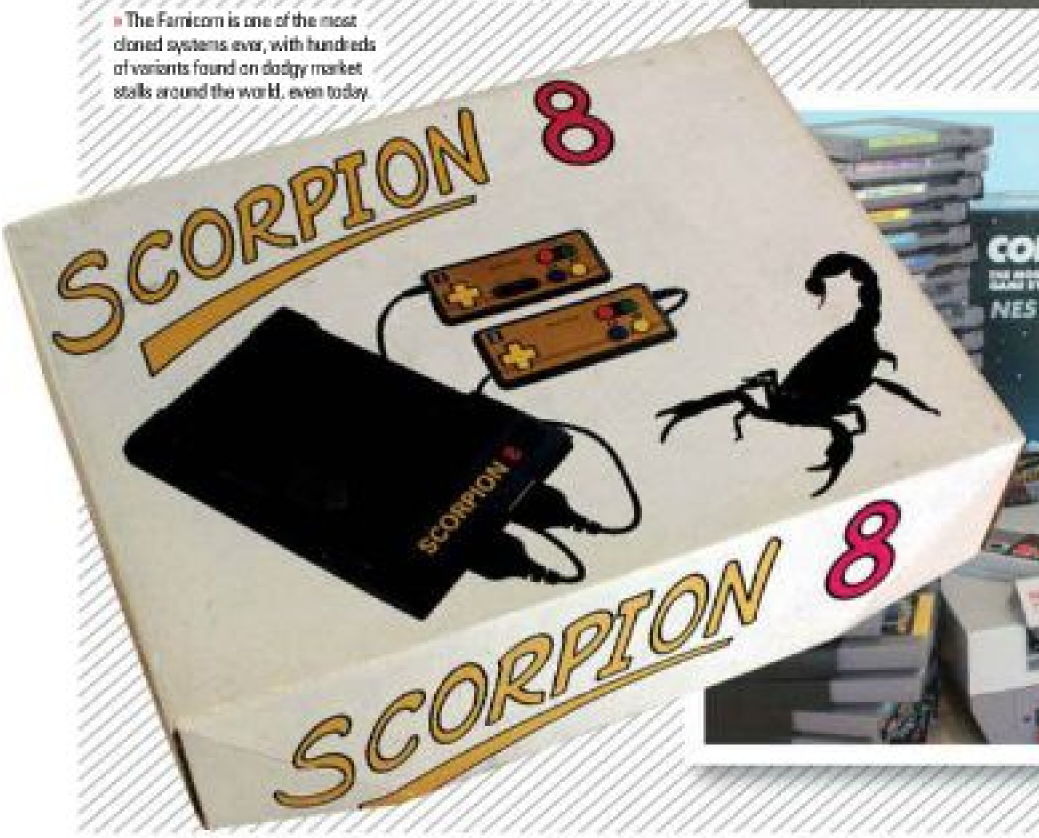


» *Mega Man 6* was never released in PAL regions, making a complete series collection frustratingly impossible to obtain.

Did you know?

■ In 1987, Bandai released a floor mat controller for the NES known as Family Fun Fitness. This primitive attempt to keep gamers fit saw the arrival of two compatible games, before Nintendo bought the rights to the technology and rebranded it as the Power Pad. Prior to this acquisition, the American version of the second compatible game, *Stadium Events*, was only available during a brief seasonal period. So few copies sold that growing demand to secure *Stadium Events* today has given rise to some hefty prices. In 2010, a factory-sealed copy fetched $41,300 at auction. European collectors, however, can rest easy, as the PAL version is not as rare and commands only a fraction of this astonishing price.

» The Famicom is one of the most cloned systems ever, with hundreds of variants found on dodgy market stalls around the world, even today.







accessories that wouldn't even advance beyond the drawing board if pitched today.

If the thought of shouting at your TV isn't enough to entice you towards Nintendo's creation, maybe the import side of the system can win you over, with many Famicom-exclusive add-ons and releases available. For example, the Famicom Disk System attached itself underneath the console, introducing a new disk-based media format upon which software could be supplied. One of the most notable and exclusive arrivals on this new medium, which missed out on a cartridge release in Japan, was *Bubble Bobble*. The list of unusual additions continues with the likes of a keyboard combined with software to program your very own games, 3D glasses, karaoke systems, and even a modem to bring the vintage hardware online.

While the majority of these obscurities were limited to Japan, the UK also had its fair share of intriguing, albeit unlicensed, additions. British software developer Codemasters released a handful of games for the NES, all of which were released without an official licence. Without the authentic development hardware, an unauthorised method to bypass the system's security was crafted, allowing games like *Dizzy* and *Cosmic Spacehead* to make their Nintendo debuts. Codemasters later went on to ruffle Nintendo's feathers further by manufacturing an unofficial cheat cartridge known as the Game Genie. This device was quickly accused of being a violation of copyright law by Nintendo, resulting in lawsuits arriving on Codemasters' doorstep. Much to everyone's surprise, the company managed to win the courts over and was allowed to continue selling the device. While Codemasters would later gain Nintendo's permission to release games on its consoles, it enjoyed a free ride on the back of the NES's success for many years.

As we reminisce over Nintendo's 8-bit console and how it previously held the record for the bestselling system of all time, it's only natural to assume that items are readily available. While this statement might hold true for the likes of *Super Mario Bros* and *The Legend Of Zelda*, acquiring a complete PAL NES library is a collector's worst nightmare, due to many publishers deciding to limit which games were released in each country. To put this into perspective, you'd need to cruise to Spain to grab *City Connection*, go globe-trotting towards Australia to secure *Aussie Rules Footy*, enjoy the sights of Scandinavia while seizing *Mr Gimmick*, stop by France for *Lethal Weapon* and then return to the UK to locate *Mario Is Missing*. To make matters worse, *Phantom Air Mission* and *Snowboard Challenge*, two incredibly elusive Spanish exclusives, are rarities that could put the infamous American gold Nintendo World Championships cartridge to shame. If anything, the PAL NES collection could be the hardest of them all to obtain.

With all of this in mind, it has to be said that although the PAL NES library holds an incredible amount of depth and enjoyment within, it is by far the most daunting. Should you be able to look beyond the challenges ahead and have the finances to foot the bill, you'll be set for one of the most thrilling retro gaming hunts you could ever imagine.

THE PERIPHERALS



ROB has since made cameos in games as varied as *Kirby's Dream Land 3*, *Pikmin 2*, *Mario Kart DS* and *Super Smash Bros Brawl*.

ROB's complicated-looking accessories don't make him appear particularly accessible to play with.

Robotic Operating Buddy

If there is anything Nintendo is known for, it's innovation. The Japanese gaming giant has always known how we want to enjoy our games, years in advance. Although the masterminds there are usually on the money, they have occasionally missed the mark and quietly swept it under the carpet. Sadly, ROB falls into this category of tried and tested gimmicks.

The Robotic Operating Buddy was Nintendo's big idea for 1985. Understanding the limitations of videogames being two-dimensional forms of entertainment, Nintendo released the Family Robot, as it was known in Japan, to break down the fourth wall. Once it was placed somewhere in front of the TV, this unusual character would await commands from the on-screen action. Up, down, left, right, open and close were the motions to which this mechanical being would respond – more than enough for Nintendo to sculpt a game around it.

Gyromite was the first title released under the 'Robot Series' label to utilise this new hardware. Our new robotic friend was set to become our second player, once equipped with the vast array of gear included. This attire consisted of a pair of gripping gloves, two spinning gyroscopes, an attachment to hold the second control pad and press the A and B buttons, a motor to spin the gyroscopes, and two empty trays to deposit the inactive gyroscopes. This abundant selection of robot accessories, in turn, would supposedly create the new experience we had all been waiting for.

Despite the complicated setup, the idea behind the robot's input was dead simple. *Gyromite*'s gameplay required you to manipulate elevating red and blue pillars, which could only be achieved by input from the second control pad. As the supporting controller was firmly lodged in one of the robot's attachments, it was up to you to send the right on-screen commands to ROB to clear your path. This was accomplished by rotating the robot in the direction of the gyroscope spinner, closing his grip on a gyroscope, moving back around to the attachment holding the control pad, and then lowering the spinning gyroscope onto one of the coloured concave buttons. Upon doing so, the weight of the gyroscope would press down on the lever, forcing the attachment to press a button on the second control pad and making the matching coloured pillar on screen traverse in the opposite direction. Although this process was straightforward enough, getting the commands to ROB was the hard part. Roaming enemies on the screen made you think twice about pausing your movement to communicate beyond the television.

Although Nintendo did release another game under the Robot Series (*Stack-Up*), the Robotic Operating Buddy became a short-lived one-trick pony. Whether this was down to the lack of directions in which to expand gameplay or simply due to poor sales, ROB has lived to tell his tale by not only becoming a cult icon, but also by making various cameo appearances in Nintendo games through the years.

...AND THE REST



01. Game Genie

■ Galoob's efforts to blow NES games wide open with memory-hacking cheats were met with a legal battle with Nintendo over what the console manufacturer considered a violation of copyright law. As Nintendo eventually lost the case against the Game Genie, gamers have since been enjoying the unauthorised offerings of Mario's moonwalking ability and Link's never-ending supply of rupees.

02. U-Force

■ Although motion controls didn't begin to materialise in a big way until 2006, Brøderbund took a stab at creating a futuristic hands-free controller in 1989. This device used perpendicular infra-red sensor panels to relay the player's physical movement to the NES. Despite a forward-thinking approach, the U-Force would only recognise the occasional interaction before becoming a bargain bin special.

03. Four Score

■ Long before the Nintendo 64 sported a wealth of controller ports, the NES had its very own party-hosting device. With a selection of games supporting Nintendo's much earlier answer to multiplayer gaming, the Four Score doubled up the available controller ports, despite an inconceivable tangle of wires.

04. NES Advantage

■ With countless arcade games being ported to the NES, it made perfect sense to bring the true coin-op experience home. The Advantage arcade stick was Nintendo's answer to tactile controls with an authentic feel, without the need for a pocket full of change.

05. Family Fun Fitness Pad

■ In the days before *Wii Fit* branded videogames as a healthy activity, Bandai attempted to get us off our backsides and on our feet. Using similar technology to the later *Dance Dance Revolution* mat, the Family Fun Fitness Pad, renamed the Power Pad in the US, took a real beating from the bundled *Track & Field*-style games in *Athletic World*.

06. Turbo Touch 360

■ Where control pads are concerned, the Turbo Touch 360 is quite possibly the worst of all time. Despite being backed by a promising ad campaign, promoting its touch sensor for "effortless movement in all directions", you'd be lucky to get any response out of this technology.

07. Power Glove

■ "Now you're playing with power." At least that's what they hoped you'd think as you slipped on the Power Glove. This wearable control pad relied heavily on ultrasonic speakers to read your arm's movement, albeit very poorly. Even after an obtrusive placement in the film *The Wizard*, this accessory failed to succeed.

Nintendo ENTERTAINMENT SYSTEM™ NES VERSION

The Collector's Guide

TOP GAMES TO PLAY

Super Mario Bros 3

■ Arguably the greatest *Mario* game to date, *Super Mario Bros 3* raised the bar on previous outings and revolutionised the platform genre.



Mr Gimmick

■ Underestimating the cutesy appeal of *Mr Gimmick* will be your first mistake in this challenging platformer. Underneath that adorable exterior is one of Sunsoft's finest yet trickiest creations.



The Legend Of Zelda

■ Link's first outing paved the way for one of the greatest series of all time, and it also became a benchmark for many other adventure games to follow.



Street Gangs

■ More commonly known today by its American title of *River City Ransom*, the cast of the *Kunio-kun* series returned in a no-holds-barred RPG brawler.



Mega Man 2

■ With a rewired circuit and a host of upgrades available, the blue bomber had returned! *Mega Man 2* not only packed a punch in gameplay, but left behind one of the greatest soundtracks to date.



PLAY THESE NEXT



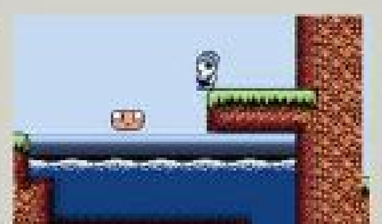
Super Mario Bros 2

■ After Nintendo USA deemed the Japanese sequel to *Super Mario Bros* too difficult, *Yume Kojo: Doki Doki Panic* was redesigned to feature characters from the *Mario* series. Although not a true *Mario* game, *Super Mario Bros 2* was a fantastic platformer in its own right, only made better by the arrival of the plumbers.



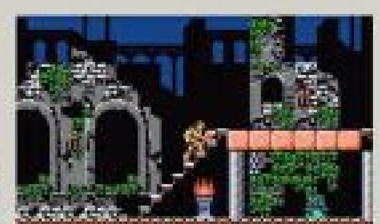
DuckTales

■ Despite being created for the youth of yesteryear, *DuckTales* is still one of the most enjoyable NES platformers today. While this could be said for the majority of Capcom's output under the Disney brand, Scrooge McDuck's money-pilfering adventures have stood the test of time thanks to the clear inspiration from the *Mega Man* series.



Ufouria: The Saga

■ While many would turn to *Metroid* for their non-linear side-scrolling explorations, little do they know that they're overlooking another shining example under the Sunsoft name. When Bop-Louie's friends suffer from amnesia after stumbling into a large chasm, it's up to you to restore the memories of the residents of Ufouria.



Castlevania III: Dracula's Curse

■ After an embarrassing first sequel riddled with frustrating dialogue boxes and time-consuming transitions between day and night, *Castlevania III* rectified any issues. The third and final *Castlevania* game on the 8-bit system was a more than memorable title with plenty of challenges within.



Punch-Out!!

■ The 1987 boxing simulator re-imagined the sporting genre by introducing a more tactical yet arcade-based approach. Button-bashers were quickly penalised and made to focus on mastering Little Mac's sweeps and blows. That said, using these skills against the cameo appearance of Mike Tyson was a challenge in its own right.

TOP IMPORT GAMES



Dragon Warrior IV
■ In an attempt to shake up the RPG genre, *Dragon Warrior IV* introduced a handful of disjointed chapters, which would eventually unite for the grand finale.

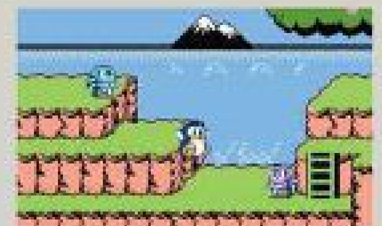
Final Fantasy
■ With Hironobu Sakaguchi giving everything he had towards one last effort in the games industry, his work paid off as his creation laid down the foundations for many more adventures.

The Krion Conquest
■ What do you get if you sprinkle a dash of magical power upon the *Mega Man* series? *The Krion Conquest*. This release was by no means shy in showcasing its admiration for the blue bomber.

Crystalis
■ Although *The Legend Of Zelda* stole the limelight for the action-adventure genre, SNK's *Crystalis* came astonishingly close to taking centre stage away from Link.

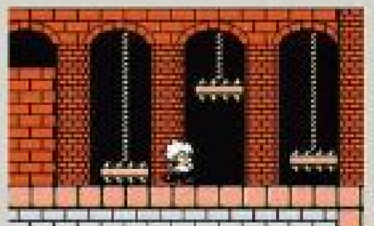
Bubble Bobble Part 2
■ Never released in the arcades, this attempt to offer the dino duo a sequel was an awe-inspiring hit featuring strikingly bright visuals and an enhanced take on the original.

IMPORT THESE NEXT



Yume Penguin Monogatari

■ While most games encourage gobbling up any leftover food, the aim of *Yume Penguin Monogatari* is to lose as much weight as possible to win back your significant other. Although incredibly easy, the platformer combined with a few shmup levels is a refreshing change from the fast-paced action we all indulge in.



Akumajo Special: Boku Dracula-kun

■ Known as *Kid Dracula*, this adorable Famicom platformer is, in fact, a relatively obscure parody of the *Castlevania* series. Instead of assuming the role of Simon Belmont, you must take control of a super-deformed Dracula and throw the dinosaur Galamoth off your throne.



Bio Miracle Bokutte Upa

■ Unfairly dubbed as 'Baby Mario' by countless online sources, Konami's sickeningly adorable adventure has much more to it than its perceived attempt to explore the plumber's early days. With nearly every level resembling, or at least containing, various edible elements, you'll find your stomach rumbling as you progress.



Super Mario Bros 2

■ Although it was suggested to be too complex for anyone outside Japan, the true sequel to *Super Mario Bros* became a Japan-only secret – at least until the arrival of *Super Mario All-Stars*. In all fairness, the increase in difficulty between the two games was rather considerable and incredibly daunting, justifying the decision from above.



Moon Crystal

■ Taking the best mechanisms from Jordan Mechner's *Prince Of Persia*, the little-known platform adventure *Moon Crystal* not only offered solid gameplay but beautiful animation by 8-bit standards. Despite being a potential bestseller, the product of the previously unknown developer, Hect, remained a Japanese exclusive.

The Collector's Guide

TOP RAREST PAL GAMES

Rodland

■ Having skipped a release in America, US collectors have since been crossing the ocean to secure this already evasive title, only to further increase both its value and demand.



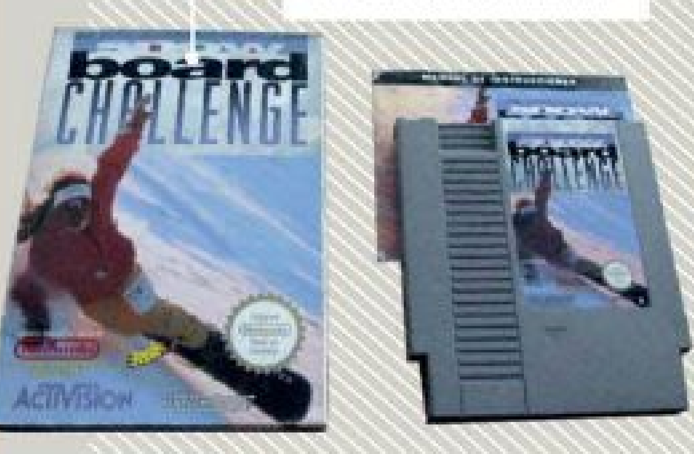
Phantom Air Mission

■ With a stupidly limited release in Spain, this unplayable and almost laughable attempt at bringing flight simulation to the NES was quickly forgotten.



Snowboard Challenge

■ Also hailing in very limited numbers from Spain, the European localisation of *Heavy Shreddin'*, titled *Snowboard Challenge*, made next to no impact on gamers whatsoever.



RC Pro-Am II

■ While many of the rarest videogames often attract flies, *RC Pro-Am II* stands out as a fantastic Scandinavia-exclusive sequel to one of the best NES racers.



The Trolls In Crazyland

■ Although the popular fluorescent-haired dolls could once be found in every child's grasp, their 1992 outing on the NES has since become a considerable rarity.

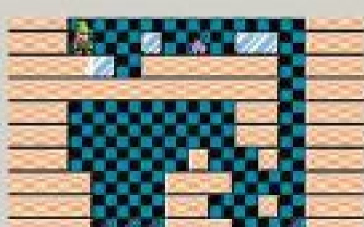


GET THESE NEXT



City Connection

■ If the trend of Spanish exclusives is becoming too much, look away now. *City Connection* is yet another scarce addition to the list of Spain's finest offerings. The arcade port of this bizarre car-based platformer follows the original very closely, leaving many PAL gamers puzzled as to why it wasn't sold in greater quantities.



Solomon's Key 2

■ Anyone who had grown fond of the original *Solomon's Key* was in for a surprise once the follow-up arrived. Tecmo decided to reinvent the series with a prequel by dropping the block-mastering gameplay for that of a puzzle involving the elements. Germany, Scandinavia and Spain are where this oddity can be found.



Super Mario Bros & Tetris & Nintendo World Cup

■ While you wouldn't expect a common game bundled with the NES to be here, this is a secret among die-hard collectors. There was an extremely rare boxed version released, which has quickly become the most expensive piece of Nintendo-branded cardboard around.



Darkman

■ The movie adaptation of the 1990 superhero film was developed by the British studio Ocean, only to find itself released exclusively in Spain. Going by the rest of its extensive catalogue, *Darkman* was far from one of Ocean's better offerings, perhaps explaining why this elusive release was never sold on the turf where it was developed.



The Flintstones: The Surprise At Dinosaur Peak

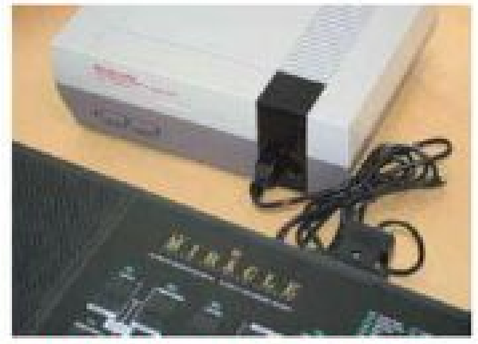
■ Americans were unlucky in that *The Surprise At Dinosaur Peak* was limited to a rental release, but Europeans have faced just as much difficulty in locating retail versions. Those hoping to obtain Fred Flintstone's second adventure need to look towards Italy and Scandinavia.



THE JEWEL IN THE CROWN

If you're looking for a rare PAL NES game that feels genuinely unique, this is the item you should seek out for your collection





What makes it so special?

■ The Miracle Piano Teaching System included a standalone electronic keyboard that could interact with the NES. The bundled tutoring cartridge offered a more enjoyable game-led approach to learning the piano, guiding you from nursery rhymes all the way to one of Beethoven's symphonies.



What makes it hard to find?

■ Upon release, the Miracle Piano held a retail price of £249. This price tag was too much for gamers and an octave too high for budding musicians. As very few hybrid pianist-gamers were willing to make this investment, the revolutionary product from The Software Toolworks got left behind.



Why is it so expensive?

■ With only a handful of gamers making a purchase in 1990, few remain in circulation. This limited number, however, is only half the problem, as the mandatory cables and original packaging are often missing. The majority of these elusive items are firmly lodged in collectors' shrines.

Nintendo
ENTERTAINMENT SYSTEM™
NES VERSION

The Collector's Guide

THE PAL NES GAMES YOU NEED TO OWN


A Boy And His Blob: Trouble In Blobolonia

- Action In New York
- Addams Family, The
- Addams Family: Pugsley's Scavenger Hunt, The
- Adventures Of Lolo
- Adventures Of Lolo 3
- Adventures Of Rad Gravity, The
- Airwolf
- Aladdin
- Alpha Mission
- Anticipation
- Arch Rivals
- Asterix
- Astyanax
- Athletic World
- Attack Of The Killer Tomatoes
- Aussie Rules Footy
- Balloon Fight
- Banana Prince
- Barker Bill's Trick Shooting
- Batman Returns
- Batman: Return Of The Joker
- Battle Of Olympus, The
- Battletoads
- Battletoads & Double Dragon
- Best Of The Best Championship Karate
- Bionic Commando
- Blaster Master
- Blue Shadow
- Blues Brothers, The
- Boulder Dash
- Boy And His Blob: Trouble In Blobolonia, A
- Bubble Bobble
- California Games
- Capcom's Gold Medal Challenge '92
- Captain America And The Avengers
- Castlevania
- Castlevania II: Simon's Quest
- Castlevania III: Dracula's Curse
- Championship Rally
- Chevaliers Du Zodiaque: La Legende D'Or, Les
- Chip 'N Dale: Rescue Rangers
- Chip 'N Dale: Rescue Rangers 2
- City Connection
- Clu Clu Land
- Cobra Triangle
- Darkman
- Days Of Thunder
- Déjà Vu
- Devil World
- Die Hard
- Digger T Rock: The Legend Of The Lost City
- Donkey Kong
- Donkey Kong 3
- Donkey Kong Classics
- Donkey Kong Jr
- Donkey Kong Jr Math
- Double Dragon
- Double Dragon II
- Double Dragon III
- Double Dribble
- Dr Mario
- Dragon Ball
- Dropzone
- Duck Hunt
- DuckTales
- DuckTales 2
- Dynablaster
- Eliminator Boat Duel
- Elite
- Excitebike
- Faxanadu
- Flintstones: The Surprise At Dinosaur Peak, The
- Galaga
- Galaxy 5000: Racing In The 51st Century
- Gargoyle's Quest II
- Gauntlet II
- Goal! 2
- Golf
- Goonies II, The
- Gradius
- Jack Nicklaus' Major Championship Golf
- Guardian Legend, The
- Guerilla War
- Gumshoe
- Gun.Smoke
- Gyromite
- Hammerin' Harry
- Hogan's Alley
- Home Alone 2: Lost In New York
- Hoops
- Hudson Hawk
- Ice Climber
- Ikari Warriors
- Indiana Jones And The Last Crusade
- Indy Heat


Gauntlet

- Iron Tank
- Isolated Warrior
- Jackie Chan's Action Kung Fu
- Jetsons: Cogswell's Caper, The
- Jimmy Connors Tennis
- Joe & Mac: Caveman Ninja
- Jungle Book, The
- Jurassic Park
- Kick Off
- Kid Icarus
- Kirby's Adventure
- Konami Hyper Soccer
- Krusty's Fun House
- Kung Fu
- Legend Of Prince Valiant, The
- Legend Of Zelda, The
- Lemmings
- Lethal Weapon
- Life Force: Salamander
- Little Ninja Brothers
- Little Samson
- Low G Man
- Maniac Mansion
- Marble Madness
- Mario & Yoshi
- Mario Bros
- Mario Is Missing
- Mega Man
- Mega Man 2
- Mega Man 3
- Mega Man 4
- Mega Man 5
- Metal Gear
- Metroid
- Mighty BombJack
- Mighty Final Fight
- Miracle Piano Teaching System, The
- Mission: Impossible
- Mr Gimmick
- NES Open Tournament Golf
- Nigel Mansell's World Championship
- Noah's Ark
- North & South
- Operation Wolf
- Pac-Man
- Panic Restaurant
- Paperboy
- Parasol Stars: Rainbow Islands II
- Parodius
- Phantom Air Mission
- Pinball Quest
- Popeye
- Predator
- Prince Of Persia
- Prisoners Of War
- Probotector
- Probotector II: Return Of The Evil Forces
- Punch-Out!!
- Puzznic
- RC Pro-Am

EXTREMELY RARE	VERY RARE	RARE	UNCOMMON	COMMON	VERY COMMON
Games that have less than a few dozen known copies available.	Very hard to come by. Expect to see only a couple of copies per year.	You should be able to source these in a reasonable amount of time.	You won't find them straight away, but you will after a search.	Always just a click away for the average collector.	So common you'll find them in most bundles of games you buy.

- RC Pro-Am II
- Rackets & Rivals
- Rad Racer
- Rainbow Islands
- Rampart
- RoadBlasters
- RoboCop
- RoboCop 2
- RoboCop 3
- Rockin' Kats
- Rodland
- Rollergames
- Roundball
- Schöne Und Das Biest (Beauty & the Beast)
- Schtroumpfs, Les (Smurfs, The)
- Shadow Warriors
- Shadow Warriors II
- Shadowgate
- Shatterhand
- Side Pocket
- Simpsons: Bart vs The Space Mutants, The
- Simpsons: Bart vs The World, The
- Simpsons: Bartman Meets Radioactive Man, The
- Skate Or Die
- Slalom
- Smash TV
- Snake Rattle 'N' Roll
- Snake's Revenge
- Snow Brothers
- Snowboard Challenge
- Solar Jetman: Hunt For The Golden Warship
- Solomon's Key
- Solomon's Key 2
- Solstice: The Quest For The Staff Of Demnos
- Spy vs Spy
- Stack-Up
- Stadium Events
- Star Force
- Star Trek: 25th Anniversary
- Star Wars
- Star Wars: The Empire Strikes Back
- StarTropics
- Street Gangs
- Super Mario Bros
- Super Mario Bros & Duck Hunt
- Super Mario Bros & Tetris & Nintendo World Cup
- Super Mario Bros 2
- Super Mario Bros 3


Super Mario Bros


Wizards & Warriors

- Super Turrican
- Swamp Thing
- Swords & Serpents
- Tecmo Cup Football Game
- Tecmo World Cup Soccer
- Teenage Mutant Hero Turtles
- Teenage Mutant Hero Turtles II: The Arcade Game
- Teenage Mutant Hero Turtles: Tournament Fighters
- Tennis
- Terminator, The
- Tetris
- Tetris 2
- Time Lord
- Tiny Toon Adventures
- Tiny Toon Adventures Cartoon Workshop
- To The Earth
- Top Gun
- Top Gun: The Second Mission
- Total Recall
- Track & Field II
- Track & Field In Barcelona
- Trog!
- Trojan
- Trolls In Crazyland, The
- Turbo Racing
- Ufouria: The Saga
- Ultimate Air Combat
- Urban Champion
- Volleyball
- Wario's Woods
- Werewolf: The Last Warrior
- Wild Gunman
- Willow
- Wizards & Warriors
- Wizards & Warriors II: Iron Sword
- Wizards & Warriors III
- World Champ
- World Wrestling
- Wrath Of The Black Manta
- Wrecking Crew
- WWF King Of The Ring
- WWF WrestleMania
- WWF WrestleMania Challenge
- WWF WrestleMania: Steel Cage Challenge
- Xevious
- Yoshi's Cookie
- Zelda II: The Adventure Of Link
- Zen: Intergalactic Ninja

Collector Q&A

Keith Lutener is a PAL NES collector and webmaster of NES-Bit (www.nes-bit.com)

Why did you decide to collect for the NES?
Over the years I've had many different retro collections, but through all of them the one system that has held my attention is the NES. It's so easy to pick and play a game. The learning curve for 8-bit games was next to nothing and you can achieve so much in even the shortest time.

And what made you focus on the PAL side?
The UK never really received much in the way of releases and we were lucky to receive close to 300 games for it. There was always the look of envy when I viewed the US catalogue, but after a while I started to really appreciate that not too many of the PAL games were that bad. With a reduced market it seemed to me the poor games just wouldn't sell, so only the good ones tended to come out.

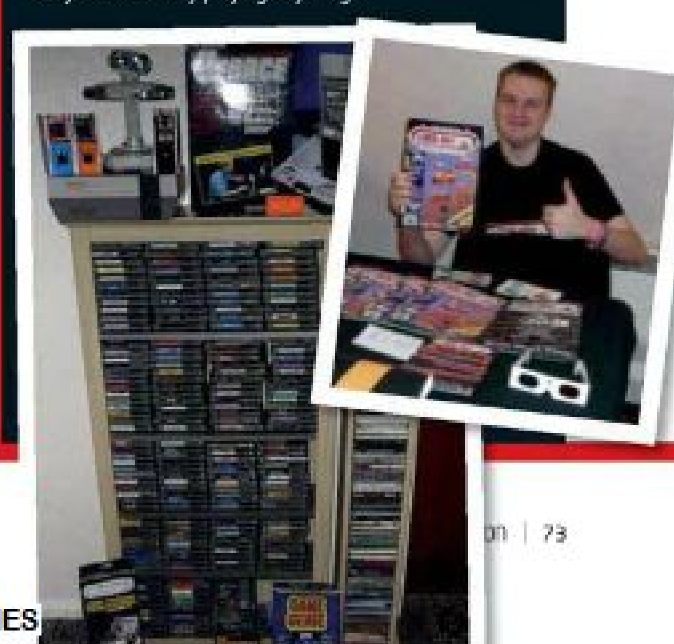
Do you play the games you buy or hoard them?
A mix of both. I'm a natural hoarder and they seem to pile up on the shelves. Besides the odd gaming session I do like to pick a few games to focus on from time to time. *Batman* is one game I picked recently and I'm determined to finish but can never seem to get past the third stage. I can easily lose a weekend loading up some truly terrible games as well, but if I didn't they'd end up coated in dust!

What can you tell us about NES-Bit?
When I first started collecting for the system I spent many hours hoping to find a site that catered for the UK fan. The NES was a smash hit in every country but the UK, so there wasn't much of a presence online. I'd written for a few blogs and NES-Bit seemed a natural step. We've managed to build a great community there with lots of reviews, articles and even some famous developer interviews. We went so far as to produce a community magazine, and the second issue is due out soon. Considering it's just over a year old, we have achieved so much and I'm really proud to have been a part of it.

What's the rarest game in your collection?
It would have to be *Anticipation*. In the past three years I've seen it appear a couple of times on eBay if that, yet strangely it never goes for a high amount. I think it ranks as one of the worst games I've ever played, so it was a real disappointment when I finally tracked it down.

What's the most expensive item in your collection?
Cosmic Spacehead by Codemasters. I paid over £60 for a boxed copy with all the inserts. It rarely appears online and was a real crowning achievement for the collection.

What advice would you give to new collectors?
The games are easy to buy en masse, so my advice would be to take it slowly. Pick a few games that you might be interested in then purchase three or four a month. It's far too easy to amass a large collection then find yourself hardly playing anything.



* For a complete list of PAL NES games, visit www.retrocollect.com

THE MAKING OF



Double Dragon

It's the most iconic beat-'em-up of all time and spawned the most famous videogame siblings after the Marios. Therefore, Stuart Hunt was honoured to study the fascinating story of Double Dragon under the tutelage of its legendary creator, Yoshihisa Kishimoto

Arcade games are always best played together. From *Pong* to *Bubble Bobble*, the most popular coin-op games in history have allowed friends – or sociable strangers – to insert their cash, grab the controls and work with or against each other until the coffers vanish or the closing credits roll. Multiplayer didn't just bring a feeling of camaraderie or a stronger sense of competition, but it also changed the atmosphere inside the virtual playground. For a perfect example of this, you need only look to *Double Dragon*. Played alone, it was a robust beat-'em-up boasting detailed visuals and plenty of variety, but when played with a second player its brilliance really shone.

As most beat-'em-up aficionados are probably aware, *Double Dragon*'s roots can be traced back to Technos Japan's earlier arcade brawler, *Nekketsu Koha Kunio-Kun* (*Renegade* in the West). However, *Double Dragon*'s relationship with the seminal scrolling fighter runs deeper than simply being its technical successor. When the feuding Japanese high school delinquents and comic schoolyards of *Kunio-Kun* were replaced with leather-clad gang members and glum city streets to make it more marketable in the US, Techno Japan's bosses quickly realised this reskinning process was both time-consuming and costly, and come sequel time a different approach would be needed. Ultimately, it was this that served as the trigger for *Double Dragon*.

"*Kunio-Kun* was firstly for the Japanese market only," explains Yoshihisa Kishimoto, the creator of *Kunio-Kun* and *Double Dragon*. "But when we decided to export it, we had to spend a lot of time creating new characters and backgrounds, and for Technos Japan it was a very big waste of time and money. So after *Renegade*, when my boss, Kunio Taki, saw I was working on *Kunio-Kun 2*, he told me he wanted me to create a game that would be accepted worldwide. So the concept of the initial *Kunio-Kun 2* became *Double Dragon*. The two-player cooperative gameplay was an idea from our marketing department. It's fun to play together – to help each other to beat the game – and it also allowed game centres to potentially double their incomes."



IN THE KNOW

- **PUBLISHER:** TAITO CORPORATION
- **DEVELOPER:** TECHNOS JAPAN
- **RELEASED:** 1987
- **PLATFORM:** ARCADE
- **GENRE:** BEAT-'EM-UP

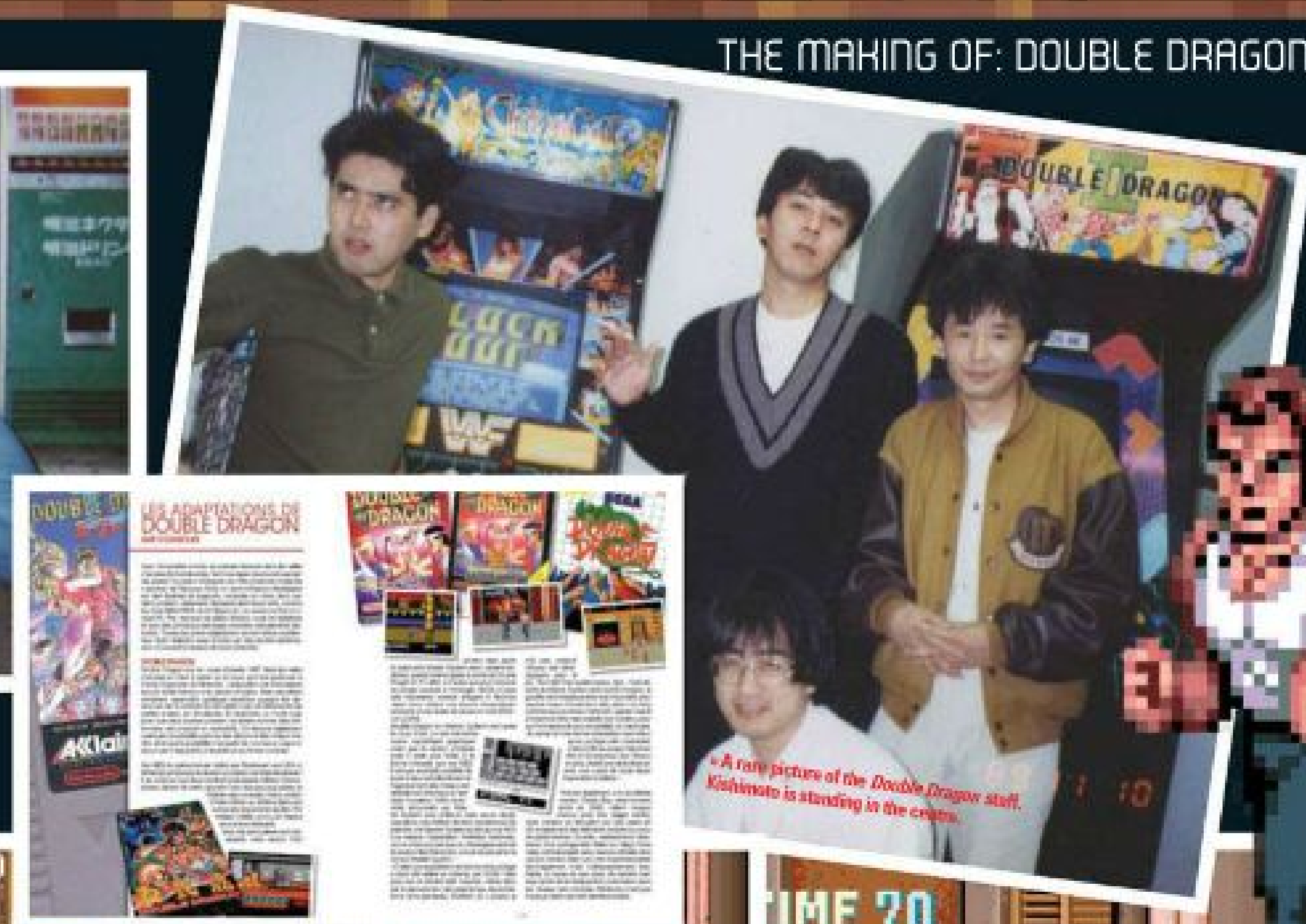






» [Above] Kishimoto, seen here in black, admits he was a bit of a delinquent as a teenager, and this had a big influence on his games.

» [Right] Florent Gorges, author of *The History Of Nintendo* books, recently released a comprehensive book detailing the life and games of Kishimoto.



» A rare picture of the *Double Dragon* staff. Kishimoto is standing in the centre.





» [Arcade] The famous red sports car in the garage is actually the car from *Road Blaster* (aka *Road Avenger*), on which Kishimoto worked as director.



» [Arcade] Poor Marian gets slugged in the stomach and carried off by the Black Warriors. Violent stuff in 1987.

With the *Kunio-Kun* follow-up to feature cooperative gameplay and aesthetics with worldwide appeal, Kishimoto decided to move away from the established franchise. Looking for a new direction, he found inspiration in the biggest martial arts actor of all time: "When I was a child, I saw the Bruce Lee movie *Enter The Dragon*. I became his biggest fan. He made the most incredible action movies in the world. And I wanted to become like him, and create the most incredible action games in the world. So, because Bruce is a worldwide famous actor, he inspired me for my new game. It's like an homage, you know? His nickname is 'little dragon', right? And because the concept of *Kunio-Kun 2* was a two-player game, I decided to create the 'Lee brothers' and call my game *Double Dragon*."

With a new title and new heroes, *Double Dragon* would naturally have to tell its own story. For this Kishimoto used the familiar damsel-in-distress scenario. However, rather than forgettable street punks, *Double Dragon*'s antagonists were far more characteristic. Dubbed the Black Warriors and headed by a machine-gun-wielding bad guy called Willy, its members comprised a small but memorable bunch that included whip-carrying Linda, henchmen Williams and Roper, and hulking great man-monster Abobo. Setting the scene brilliantly, the Black Warriors also showed a capacity for violence through a memorable in-game introduction that showed them visiting the Lee brothers' turf, slugging their girlfriend Marian square in the stomach, and then carrying her off to their hideout.

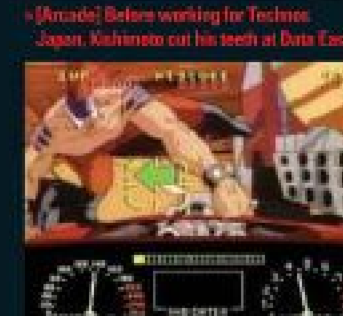
While gang numbers were massaged using economical palette swaps, this could be forgiven because of the quality of *Double Dragon*'s sprite designs and graphics. *Double Dragon* was a clear visual step up from *Kunio-Kun*; its levels looked more vibrant and detailed, and were decorated with nice touches and details that really brought its world to life.

"There are a lot of funny details in *Double Dragon*," muses Kishimoto. "For example, did you notice the red car in the first screen of the game inside the garage? It's the car from my first LaserDisc game, *Road Blaster*."

As well as an attention-grabbing introduction, *Double Dragon* ended in style, with a memorable twist ending if the game was played cooperatively. It saw Billy and Jimmy forced to turn on each



» [Arcade] Before working for Technos Japan, Kishimoto cut his teeth at Data East.



» [Arcade] *Double Dragon* and *Road Avenger* both share revenge-themed plots.





» [Arcade] *Cobra Command* and *Road Avenger* received home ports on Mega-CD.



other for one final fight to win Marian's love after beating Willy. "Well, at first, we had the idea of collaborative gameplay for two players," Kishimoto explains. "So, playing *Double Dragon* with a friend was like a fight between human players against a computer. But when you reach the last stage and defeat the last boss, tough guys have to think: 'Okay, we were stronger than this machine, but now we have to know who is the best between us!' And to know the real winner of the game, we had to make them fight each other. I also wanted the game to have an unexpected ending. It was, I think, a nice idea."

In addition to its innovative cooperative gameplay, *Double Dragon* introduced a number of other ideas that became staples of the genre throughout the next decade. Chief among them was the fact that the Lee brothers could pick up and use an assortment of different melee weapons to biff their enemies, from whips and baseball bats to steel pipes and even sticks of dynamite.

"At the end of the development of *Kunio-Kun*, I noticed a funny graphic detail on the screen: when you hit a guy with a weapon and he falls down, his weapon is on the floor, next to the enemy," says Kishimoto. "One day I just said to myself: 'Hey, wouldn't it be fun if the player could take that weapon and use it against the enemies?' But because I was too late to program such a new gameplay feature, I decided to use it for *Kunio-Kun 2*."

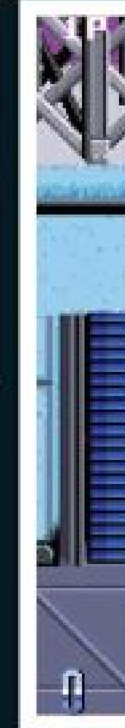
Add to the weapons a variety of fighting moves, including hair pulls, elbow strikes and flying kicks, and *Double Dragon* boasted one of the most robust combat systems of any fighting game of the time; one made all the more satisfying by the fact that one player could grab and restrain an enemy while another joined in and gave the struggling thug a good pasting.

> It was the first beat-'em-up with multi-screen-length scrolling, so it was difficult to establish what was best for that

One other impressive aspect of *Double Dragon* was its stages. While the fighting environments in *Kunio-Kun* stretched just two screens and didn't scroll constantly, Kishimoto desired for *Double Dragon* to play out in a more elaborate environment. On reflection, this proved to be another design masterstroke, as the gradually changing backdrops and interactive hotspots, from climbable ladders to deadly conveyor belts, heightened the action and kept *Double Dragon* feeling continually rewarding. Uniquely, each of *Double Dragon*'s four stages segued into the next, and took the form of one gigantic level. It comprised four distinct areas made up of a street, factory, woodland and finally the gang's hideout, with each section punctuated by a boss fight. Never did the camera cut from the brothers and pull gamers from the world. However, settling on the best way for Billy and Jimmy to progress proved to be one of the biggest challenges for Kishimoto and his team.

"*Double Dragon* was the first beat-'em-up with real multi-screen-length scrolling," says Kishimoto, "so it was difficult to establish what was best for that. Forced scrolling? Free scrolling? For example, if we used free scrolling then the user would be able to walk directly to the end of the stage without fighting. But because the positions of the enemies are scripted, they appear when you reach certain points. So, if the user doesn't fight, all the enemies will appear on the screen and follow Jimmy and Billy. There will then be too





DEVELOPER HIGHLIGHTS

RIVER CITY RANSOM (PICTURED)
SYSTEMS: NES
YEAR: 1989

WWF SUPERSTARS
SYSTEMS: ARCADE
YEAR: 1989

THE COMBATRIBES
SYSTEMS: ARCADE, SUPER NES
YEAR: 1990



» [Spectrum] Dean Swain's long-gestating Spectrum remake of *Double Dragon* is close to completion. It's looking mighty fine as well.

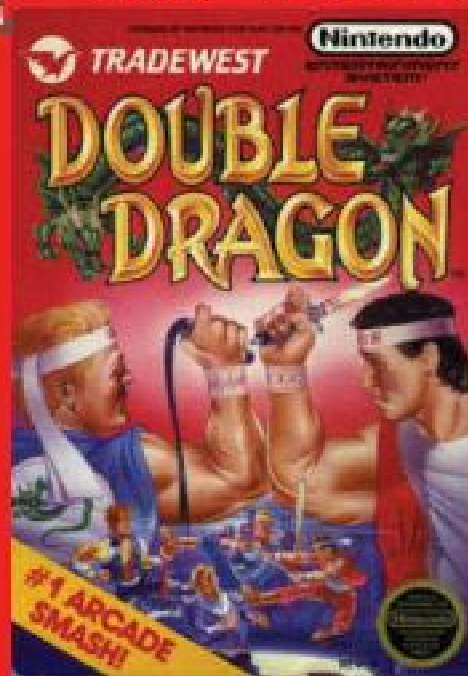


» [Arcade] Following Willy's defeat, the Lee brothers are forced to fight to prove who is worthy of saving Marian.



» [Arcade] The concept of having usable weapons picked up from fallen foes was an idea Kishimoto had during the production of *Kunio-Kun*/*Renegade*.

HOME BE DRAGONS Porting the Lee twins







DOUBLE DRAGON'S POPULARITY led to a large number of home conversions, from the humble Atari 2600 to late appearances on the Mega Drive and Atari Lynx. Of all the ports released, Kishimoto was only involved in the NES conversion, which differed in a number of ways from the arcade original.

Cooperative multiplayer was dropped, with players instead having to take it in turns to control Billy while Jimmy was forced to play the role of final boss once Willy was defeated. The level designs were also different, and a levelling system was introduced, which saw moves gradually getting added to Billy's repertoire as he progressed though the game. It also featured a second mode, which took the form of a one-on-one fighting game against the computer and allowed players to fight as either Billy or a selection of enemy characters, but oddly not Jimmy.

many sprites on the screen and it will make the game freeze. Today, *Double Dragon*'s concept and scrolling looks very natural, but at that time it was a pioneering idea. It took time to make those technical settings look as natural as possible."

Of course, with *Double Dragon* containing so much innovation, invariably something had to give. That something was the speed, with *Double Dragon* suffering from notorious bouts of slowdown whenever its action got too heavy. Kishimoto is keen to explain the reason why this occurred: "The point I want to mention is that our game was too big for our hardware. That's why the game often gets very slow. I wanted to input so many things, but because of those limitations it just wasn't possible. People don't know this, but to tell you the truth there were about a dozen *Double Dragon* versions. The first one was full of bugs. It took our programmer about one year and more than ten new updates before we could get to a completely debugged version!"

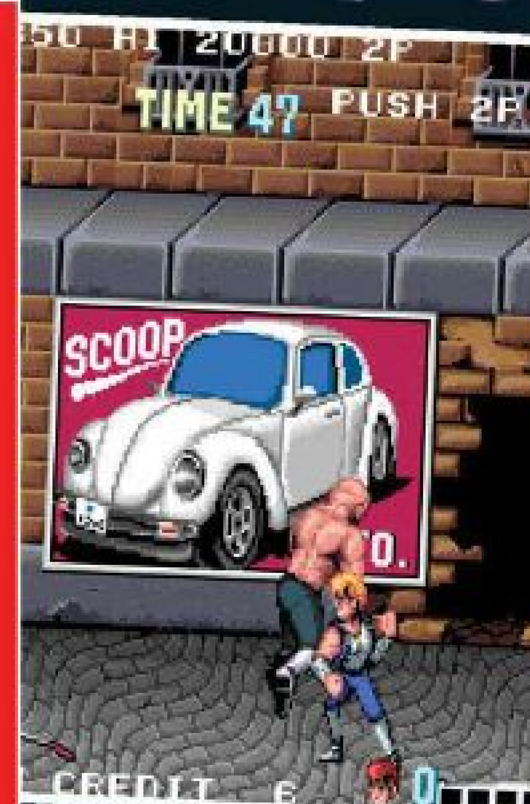
Following those various revisions and lengthy debugging process, *Double Dragon* was finally released into arcades in 1987, and quickly it garnered praise and fans. Despite the slowdown, players were won over by its ambition, charm and visuals, and showed their enjoyment by flocking to arcades to give it their loose change. And with videogames and martial arts films both enjoying popularity in America in the Eighties, Technos couldn't have timed *Double Dragon*'s release better. In fact, 1987 was a pretty fantastic year for videogaming, with the release of *Mega Man*, *Maniac Mansion*, *Metal Gear*, *Final Fantasy* and *Street Fighter*. Of all those classic games released, though, we would argue that *Double Dragon* was the biggest success story that year. It is seen as *the* defining beat-'em-up of the Eighties, and become one of the most recognisable arcade games of all time. So did Kishimoto have any inkling at all that the game would go on to be the phenomenon it was?

"Well, I wouldn't be honest if I said I never imagined it would



KICKING MERCHANDISE

DOUBLE DRAGON MANIA would spin off a whole bunch of promotional merchandise, from T-shirts and embroidered badges to a board game from Tiger Electronics, a Marvel comic book series, and later even an animated TV series. Loosely based on the story of the NES game – Jimmy was separated from his brother at birth and trained up by the Black Warriors – the show produced even more merchandise, including a range of *Double Dragon* action figures, and also provided the seed for a terrible live-action movie released in 1994. Starring Scott Wolf and Mark Dacascos as the Lee brothers and *Terminator 2*'s Robert Patrick as the Shadow Boss, it's a poor and rightly mocked adaptation of the *Double Dragon* videogame, as it turns the cool and edgy arcade game into something that makes *3 Ninjas: High Noon At Mega Mountain* feel like *Lone Wolf And Cub*. It's so terrible that it almost – and we emphasise the 'almost' – makes you question the badness of the famously terrible *Street Fighter* movie released the same year.





» [Xbox 360] Wayforward Technologies is planning to revitalise the franchise with the upcoming release of *Double Dragon Neon*. Needless to say, we are rather looking forward to it.



» [Arcade] Pushing its tech to the limit, *Double Dragon* suffered from slowdown whenever its action got busy



become a hit," he responds. "Since the first days of the concept, I knew it would be wonderful, but I didn't imagine it would become as big a hit as it did. My real wish was to give users the best action game in the world. So we worked very hard to reach that goal."

Following its success, Technos released a *Double Dragon* sequel the following year. *Double Dragon II: The Revenge* saw the Black Warriors and Lee brothers continue their violent quarrel, and Kishimoto remain seated in the director's chair. The sequel once again featured an attention-grabbing opener, which showed Marian getting mercilessly gunned down by the gang. This set a darker tone for the second instalment, as the Lee brothers set out on a quest for vengeance. Also like the original, the mission was spread across four distinct areas, connected with no visible join, and closed with a surprise ending: the brothers forced to fight shadowy copies of themselves. The visuals benefited from a nice makeover – the colours looked more vibrant, the animations were smoother and the sprites more detailed – and the controls also received a tweak. This time Technos used a *Renegade*-style direction-based attack configuration that had a button for attacking left and another for attacking right, which was complemented by a range of new moves and weapons.

Technos released *Double Dragon 3: The Rosetta Stone* in 1990. It looked distinctly different from the previous two titles, and many beat-'em-up fans remarked that it looked and played more like *The Combatribes*, a separate scrolling fighter from Technos Japan released the same year, which was produced by Kishimoto. *Double Dragon 3* supported up to three-player co-op and introduced new hero Sonny, a yellow version of Billy and Jimmy, which sort of implies that the Lee twins are actually triplets. In addition to this, players could purchase new moves and playable characters by visiting item shops and spending credits. Unfortunately, *Double Dragon 3* wasn't as well received by fans, and it wasn't helped by Capcom releasing *Final Fight* in the same year. Therefore, it is seen by many as the point at which Technos was forced to hand over its beat-'em-up crown.

> "Double Dragon is a photograph of Eighties pop culture. And, of course, it was innovative and incredibly fun"

THE OCTUPLE DRAGONS

Our complete rundown of the entire Double Dragon series



Double Dragon (1987)

THE SEMINAL brawler started life as a direct sequel to *Kunio-Kun* (*Renegade*), before Technos Japan bosses intervened. Introducing the world to twin brothers Billy and Jimmy Lee, it was notable for its cooperative gameplay, usable melee weapons and elaborate stages.



Double Dragon II: The Revenge (1988)

THE BROTHERS were out for vengeance following the murder of Marian at the hands of Big Boss Willy. The sequel made improvements to the graphics, animations and enemy AI. It's a fantastic game, regarded by many as the best in the series.



Double Dragon 3: The Rosetta Stone (1990)

DOUBLE DRAGON 3 varied a lot from its predecessors. It featured three-player co-op, and introduced new playable characters. Aesthetically it shares more resemblance with *The Combatribes*, which was released by Technos Japan the same year.



Super Double Dragon (1992)

SUPER DOUBLE Dragon was a Super Nintendo exclusive, and can be looked upon as a reboot of sorts: Marian is kidnapped by new villain Duke, and the brothers must rescue her over seven new stages. It's a decent sequel with some great visuals and animation.



Battletoads & Double Dragon: The Ultimate Team (1993)

MORE *BATTLETOADS* than *Double Dragon*, though still a decent crossover, Jimmy and Billy teamed up with Rare's ninja toads to deliver a rollicking good brawler for the ageing NES. It was also released for the Game Boy, SNES and Mega Drive.



» [Arcade] *Double Dragon* spawned a raft of promotional merchandise, an animated TV show and a live action movie.



» [Arcade] Owing to its popularity, *Double Dragon* received plenty of home ports – some were good, but most were disappointing.

Despite this, and the closure of Technos Japan in 1996, the *Double Dragon* franchise endured. A further six games were released in the series, and it also spawned an animated show and a much-despised live-action movie. Kishimoto, meanwhile, left Technos Japan in the Nineties to work as a freelancer, trading under the alias of Plophet. During his career, which spans 30 years, Kishimoto has worked on more than 350 games. Today he can be found at Plophet Co., Ltd, a company he founded in 2011. His latest development is an iOS and Android game titled *ViER*, which is currently available to purchase from the App Store and Android Market. It's a board game that sees players competing to make blocks of vier ('four' in German) tiles and is a long way from the mean streets of *Double Dragon* and *Kunio-Kun*.

If you grew up playing games in the Eighties, you will be fully aware of *Double Dragon*'s impact. It was one of those extraordinary games you simply could not escape. And yet despite being very much a game of its time, its status and popularity holds to this day – recently news broke that WayForward Technologies is going to be working on a brand new *Double Dragon* sequel for XBLA and PSN, which will coincide with its 25th anniversary.

Double Dragon will always remain a game synonymous with the Eighties and amusement arcades, and it is for this reason that it holds a lot of nostalgia with gamers. To close, Kishimoto shares with us his personal thoughts on why Billy and Jimmy Lee's plight has resonated with gamers for such a long time.

"*Double Dragon* is like an ambassador for a decade: the Eighties. Kung fu, street fighting, dragons, Bruce Lee, dark action movies… *Double Dragon* is a photograph of Eighties pop culture. And, of course, it was innovative and incredibly fun."

Special thanks to Double Dragon Dojo, and to Florent Gorges for their help and assistance with this article. If you are able to read French then for more information about Mr Kishimoto check out Florent's book, *The Great Names Of The Video Game Industry #4: Yoshihisa Kishimoto, Enter The Double Dragon*



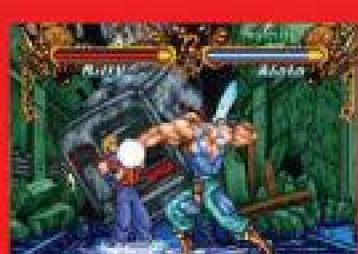


» [iOS] Kishimoto can be currently found at Plophet, a studio he founded in 2010. Its latest project is *ViER* – an intriguing game for iOS.



Double Dragon V: The Shadow Falls (1994)

THE SHADOW Falls, based on the *Double Dragon* animated TV series, was clearly released to capture the popularity of the one-on-one fighting genre repopularised by *Street Fighter II*. By this point, Tradewest owned the *Double Dragon* licence.



Double Dragon (1995)

ANOTHER VERSUS fighter, but this one is based on the terrible live action movie with a helping of fighters from the games. Pleasantly, it's a decent instalment. However, being released for the Neo Geo, it had a tough time standing out from the plethora of quality brawlers on the machine.



Rage Of The Dragons (2002)

ANOTHER ONE-ON-ONE effort, *Rise Of The Dragons* has a visual style that instantly calls to mind the excellent *Garou: Mark Of The Wolves*. It was developed by Evoga, an independent developer, and, as its title hints, has only a subtle connection to the *Double Dragon* universe.



Double Dragon Advance (2003)

THIS IS a splendid enhanced port of the arcade original, developed by Million, a successor to Technos Japan. It makes a number of nice changes to the original game, including redrawn sprites, cut-scenes, no slowdown, and double the number of stages.



Minority Report

Gaming has its world-beaters. Just as interesting, though, are platforms and titles that, but for fate, could have been serious contenders. Rory Milne looks at some great gaming on less-familiar systems, and some underappreciated classics on better-known hardware



IRONCLAD

■ SYSTEM: NEO GEO CD ■ DEVELOPER: SAURUS ■ YEAR: 1996

» NEO GEO CD



» [Neo Geo CD] A tense showdown with a trio of self-replicating robotic crabs.

■ On release, the pros and cons of SNK's cartridge-based Neo Geo AES were pretty clear: arcade-quality gaming in your living room, but at an astronomical price. A few years later, however, the Neo Geo's manufacturing costs and the price of CD-ROM technology had come down, and SNK saw an opportunity to launch a more affordable model that ran cheaper games: the Neo Geo CD. Sadly, its lethargic CD-ROM drive's lengthy loading times led to little success, and the system saw few exclusives. One of note, though, is *Ironclad*, an entertaining and visually impressive shooter with a great soundtrack and excellent replay value.

Ironclad is a game that gets a lot of things right. Lavish pre-rendered backgrounds offer a wide variety of scenery, detailed sprites are skilfully designed and realised, and thumping synth rock/classical/industrial music complements the action perfectly. Power-ups come in a mouth-watering range of flavours, and multiple options provide ample incentive for repeated play. You get easy, normal and hard modes, a choice of three planes, and numerous paths to choose from as you advance through the levels.

Options aside, your mission is to fight your way through an entire army of machines, each sector guarded by an armoured, mechanised boss that you must defeat to progress. Initially, you have light weaponry, an emergency hyper-bomb that destroys all on-screen minor foes, and a detachable robot. The latter acts as a shield and boosts your weapons when attached, or as an attack drone when detached. Before long, however,

» MSX



» TEMPTATIONS

■ SYSTEM: MSX
■ DEVELOPER: TOPO SOFT ■ YEAR: 1988

■ **In this sprawling** platformer, Noni the monk must vanquish hordes of demons as a test to gain entry to the Vitigudina order. Noni is bestowed with ten lives, but given the difficulty of traversing each screen, that's no bad thing. Hidden power-ups are essential to progress but are only revealed by shooting seemingly innocent objects. Smoothly animated demons, meanwhile, must be evaded or accurately targeted as they zip around each screen. Excellent use is made of the hardware, with the result being colourful, detailed characters and backdrops, while play is cerebral and offers balanced platforming.

» SAM COUPÉ



» DYZONIUM

■ SYSTEM: SAM COUPÉ
■ DEVELOPER: FRED PUBLISHING ■ YEAR: 1993

■ **You're on a** voyage to collect crystals from the ten zones of a far-off galaxy. Unfortunately, this involves blasting or dodging their mutant guardians, and although power-ups temporarily increase your firepower, one life and a rapidly reducing energy bar make your task difficult. The game is viewed top-down, with eight-way scrolling, attractive sprites, atmospheric sound and an impressive wireframe 'game over' sequence that you see repeatedly. As well as collisions and enemy fire, watch for being caught in explosions of your own making. This is a polished shooter, but it's unapologetically hard.

» WONDERSWAN



» KAZE NO KLONOA: MOONLIGHT MUSEUM

■ SYSTEM: WONDERSWAN
■ DEVELOPER: NAMCO ■ YEAR: 1999

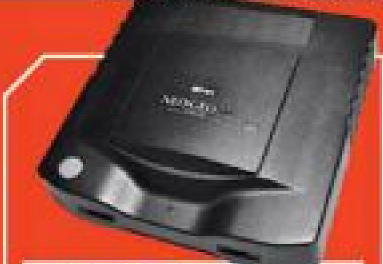
■ **A novel mechanic** is employed in this surreal platformer. You have to grab and inflate opponents, then utilise their bloated condition for aerial transport, to perform double jumps, or to bowl things over. The titular museum's five worlds each contain six dreamlike 'visions', which you overcome by solving puzzles in order to find three stars. Higher areas are accessed by stacking crates or jumping on balloons, while doors are unlocked with matching keys. Simply put, this is thoughtful, well-designed gaming.



» [Neo Geo CD] In hot pursuit of a jet-powered armoured chicken.



» [Neo Geo CD] A forest pool reflects the moon, as a missile-laden UFO powers up.



» ABOUT THE SYSTEM

- The Neo Geo CD was released four years after its expensive cartridge-based predecessor, the Neo Geo AES.
- The price was right, but it suffered from slow loading times.
- The system's library largely consisted of ports from the MVS and AES, but it did get a few worthwhile exclusives.

you can upgrade with power-ups as diverse as flame bursts, lightning bolts and heat-seeking missiles.

It's probably just as well that the in-game armoury is well stocked, as the creative assortment of metallic commanders at the end of each stage require serious firepower to take down. Among their ranks are a self-replicating robotic crab, a jet-powered armoured chicken, an insane mech preacher, and their imposing, mysterious, metal-caped leader.

Swarms of ground and air troops complete his army, stranger recruits being frog droids and sentient mines floating from party balloons, with more predictable combatants in helicopters, planes, jeeps and tanks.

The occupied lands you attempt to traverse are represented by often-breathtaking, multilayered, animated backgrounds. There are cloud-dusted forests with pools of water reflecting the moon, stark nuclear wastelands, and industrial plants thick with dust and vents, shooting flames.

Granted, *Ironclad* doesn't rewrite any rulebooks. It's perhaps less demanding than other side-scrolling shmups of the time and doesn't make any massive innovations, but the alternate routes, variously equipped planes and choice of difficulty levels help add serious longevity. The eclectic soundtrack works seamlessly and is testament to the care taken in matching the score to the mood of each scene. Just the fact that *Ironclad* has moods is a mark of the effort put into a straightforward shooter. Paradoxically, then, perhaps what makes *Ironclad* great is that it doesn't attempt to do anything special.



» [Neo Geo CD] At war with the metal-caped leader as his empire burns.

» TI-99/4A



» SPACE BANDITS

■ SYSTEM: TI-99/4A
■ DEVELOPER: MILTON BRADLEY ■ YEAR: 1983

■ **Using a top-down** perspective, but with movement into and out of the screen, this unusual maze shooter charges you with retrieving energy crystals. Take care of uncollected crystals turning white and becoming lethal, of androids firing antigravity spray that leads to a spirally demise, and of zapping droids with your vapour gun, as this creates deadly, passage-blocking energy. As the droid count is ratcheted up, you quickly find yourself with little room to manoeuvre. Visually, a balance is struck between effective and attractive, while gameplay is original and compulsive in equal measure.

» AMSTRAD CPC



» BACTRON

■ SYSTEM: AMSTRAD CPC
■ DEVELOPER: LORICIEL ■ YEAR: 1986

■ **Seldom mentioned, despite** great visuals, audio and gameplay, *Bactron* offers slick, addictive gaming. You play an antibiotic blob, attempting to rid its host of viruses by reactivating enzymes. Every virus drains your limited energy while demanding a different defence strategy: spiders can be avoided with nimble footwork; spinning tops and sombreros trapped behind barriers or immobilised with spit; and lethargic cells weaved through. Enzymes replenish your health, blue doppelgangers have the opposite effect, and inanimate objects can be pushed around. A challenging title, but you keep coming back for more.

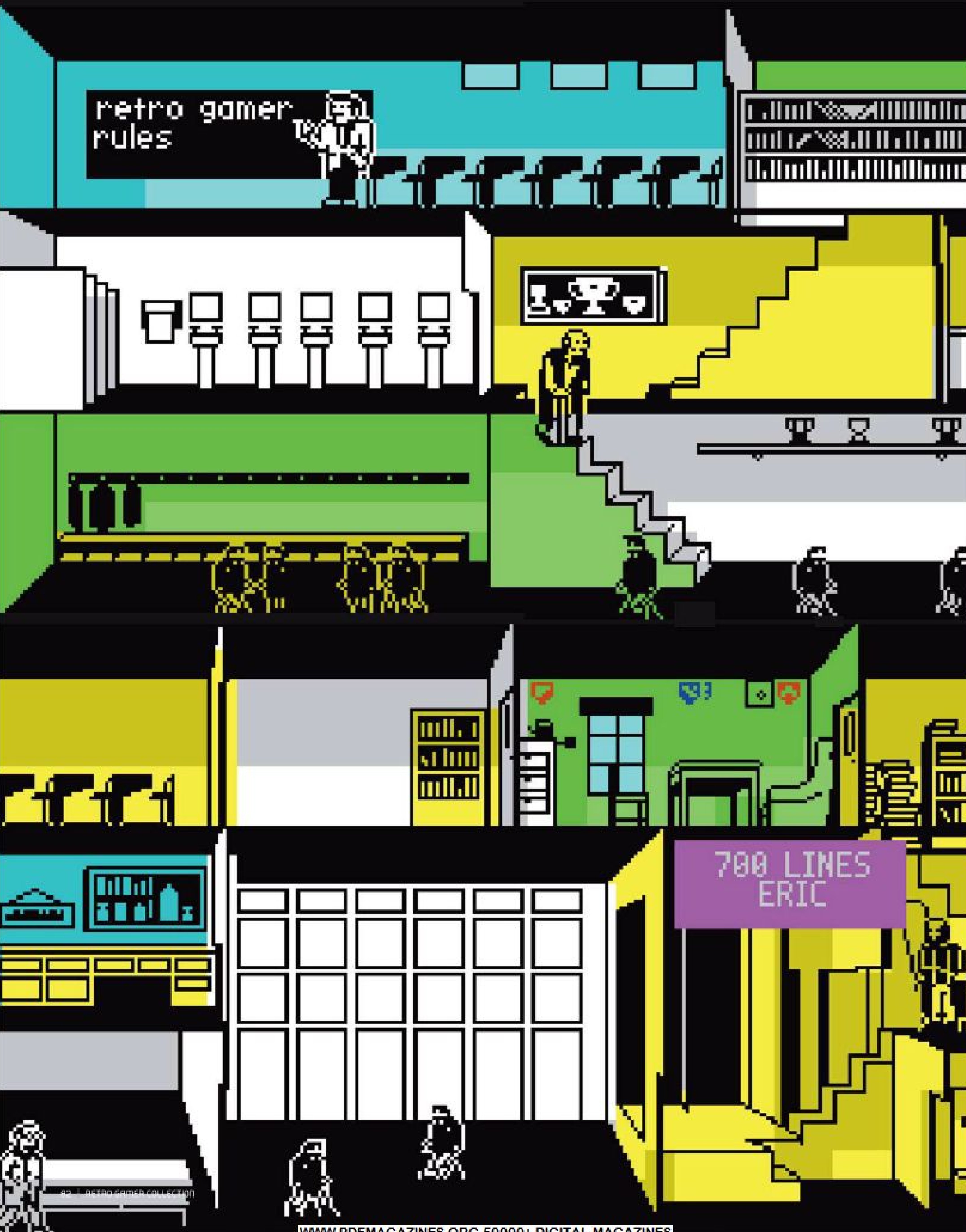
» BBC MICRO B



» PANDEMONIUM

■ SYSTEM: BBC MICRO B (ALSO ON ACORN ELECTRON)
■ DEVELOPER: SUPERIOR SOFTWARE ■ YEAR: 1985

■ **Somewhere in a** vast, primary-coloured land, 12 pieces of a core must be collected while steering clear of or zapping the manically energetic denizens. As an aid to travel, telephone kiosks, each with their own number, can be transported between, but to discover a kiosk's number you first have to visit it. Energy and weaponry are metered, so careful conservation of each is required, especially as extra lives are in short supply and difficult to reach. Progression proves challenging but always fair, while the visuals, music and effects are the equal of the great platforming on offer.


retro gamer
rules
700 LINES
ERIC



Back To Skool Daze

As Back To Skool nears its 30th anniversary, we swot up on the history of it and its innovative free-roaming predecessor and look back to a time when skool was cool

Without rules and objectives, the game of *Monopoly* would quickly descend into aimless playing around with a carbonite-encased terrier and worthless play money, while football would just be hanging out with a leather spherical object and 21 mates in a field. In fact, it would be fair to say that rules are what define and differentiate all games, and any feelings of winning, losing or accomplishment come from following them. However, when a game offers the opportunity to break the rules and inject a bit of player-induced anarchy, things often become more interesting.

Skool Daze is a great example of this. Breaking moulds on its release by refusing to fall quietly into any specific game genre, it offered a unique and well-observed portrayal of school life through the colourful prism of a Spectrum. Set inside the boisterous walls of an all-boys' school, it thrust players into the shorts of Eric, a young scallywag embarking on a desperate mission to save his skin. Fearing the hot white wrath of his parents when the dreaded report day rolls around, Eric hopes he can keep the natural colour of his backside by frantically dashing around the school to hit a series of shields that will 'hypnotise' his teachers into giving up the combination to the school safe where his report card is kept. If Eric is caught misbehaving or being somewhere he shouldn't then he receives lines as punishment, and if he accumulates a staggering 10,000 through repeated misdemeanours he is instantly expelled from school and the game ends. But it isn't all stress and gloom for our young hero, as his fellow school chums are on hand to enliven the school day, offsetting the actions of a faculty of four school masters who try their best to pacify and control it.

Through a combination of their individual characteristics and believable behaviour routines, both factions played a big role in bringing *Back To Skool*'s gameplay to life. Some teachers were friendly towards the boys, while others, like the school's headmaster Mr Wacker, hated their sweetie-stuffed guts. However, all would act like teachers generally do: taking the kids for lessons and telling them off breaking the rules. Eric's schoolmates, 14 in total, also had individual personalities. Led by a trio of standout pupils inspired by stereotypical school staples, they included the troublesome Boy Wander, who loved seeking out the attention of his peers by writing on blackboards, firing his catapult at teachers and generally acting the twit, the walking line magnet Angelface, the school bully, and finally Einstein, the tale-telling swot who served as Wacker's eyes and ears on the ground. The school environment was equally well observed, containing all the amenities and



areas you'd expect to see in a scholastic institution circa 1984 – with the exception of toilets. It had a library, history, geography and science rooms, and even a staff room (which Eric had to be careful not to get caught sneaking around in).

Of course, for a virtual school to really feel believable there needed to be routine and order, and this came from Eric having to be seen to be abiding to a timetable comprising lessons, revision and playtime. When the nerve-shattering school bell rang to signal the end of break time, Eric had to dash to the relevant classroom and take his seat before class began. And with the school's budget clearly stretched, the seat-to-boy ratio didn't always add up. Thus it was common for Eric to have to fight with his rambunctious school chums to keep his seat and prevent himself from receiving more lines from teachers.

Of course, Eric could always choose to escape the curriculum and continue with his shield-smashing mission during lesson time, and it's here we come to the real meat of *Skool Daze*'s brilliance: you could play it how and at whatever pace you liked. You could stray off the task and spend time exploring and causing havoc, but while running down empty corridors was fun it was always done at the risk of getting caught by a teacher. Thus good behaviour in front of the masters was crucial, especially as Eric could get told off for all manner of petty school crimes, from jumping and brandishing his catapult to writing on the blackboards and loitering on the stairs. And it wasn't just the faculty that Eric had to be wary of, either; his classmates were a pretty troublesome bunch too. Indeed, Eric would often hear rumblings around school that someone was trying to make life difficult for him, be it Boy Wander planting a catapult with Eric's name on for a teacher to discover, or that grovelling little snitch Einstein telling tales to Mr Wacker.

One other genius aspect of *Skool Daze* was that it enabled players to name the teachers and students. Something so brilliantly simple, this clever touch offered players the opportunity to personalise the *Skool Daze* experience at the start of the game. After all, everyone had an Angelface, an Einstein and a Boy Wander at their school, a teacher they thought cool and a few they didn't dare to cross, and here was a game that let you plonk all of them into a videogame and act the anarchist without reprisal.

A Brief History Lesson

Skool Daze was the brainchild of programmer Dave Reidy. In 1981 Dave was working as a systems analyst before he started writing business programs for the ZX81. The following year he set up his own company, Microsphere, and after noticing the swift popularity of the ZX Spectrum he decided to enter into the burgeoning games market. Using local illustrator Keith Warrington to create promotional artwork and packaging, Dave and Microsphere kicked things off with the delightful *Crevasse/Hotfoot*: a Speccy compilation pack comprising two delightfully simple titles: one saw players steer a crosshair (meant to represent a buggy) across treacherous cracking ice, and another involved helping a weight-increasing rabbit scarf down block-shaped carrots. The games were well received and so Dave was persuaded to continue on dabbling with game-making. *Evolution* and *The Train Game* quickly followed, but it was Dave's next title that brought him and Microsphere to wider attention: *Wheelie*, which spliced together the racing and platform game genres in fantastic fashion and garnered solid reviews.

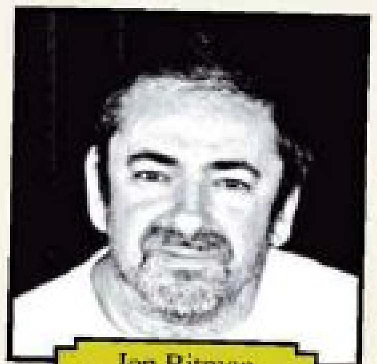
Skool Daze, which was released in the same year, became another hit, and was inspired by a combination of Helen Reidy's experiences working as a school teacher and amusing comic strips like *The Bash Street Kids* about mischievous school kids making life miserable for their teachers. As is clear in retrospect, comics had a big influence on *Skool Daze*'s colourful design, from the various classrooms and overall layout of the school resembling comic book panels to the teachers and kids communicating via speech bubbles. Realising then that pulling off a project of this visual scale – an animated comic book – would be a little beyond his artistic talents, Dave asked Keith to design and draw the graphics for the game, which Keith sketched on graph and tracing paper before handing the wads to Dave to then reconstruct in machine code.

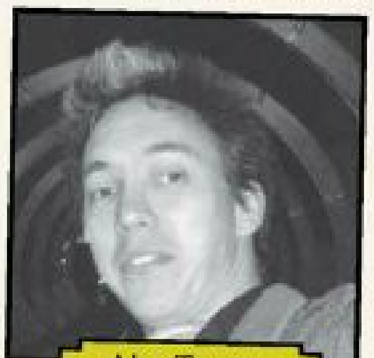


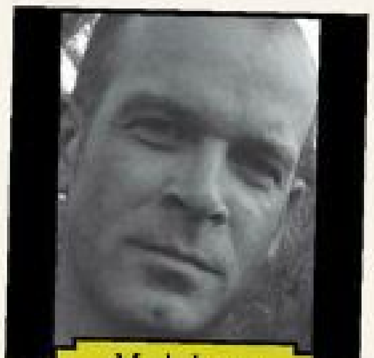


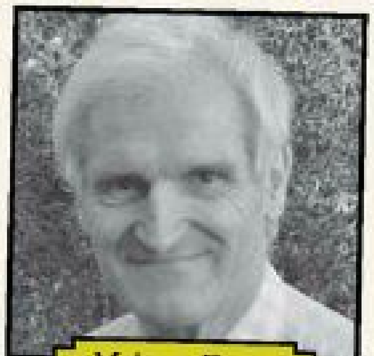
The Skool Daze Yearbook 1984/1985

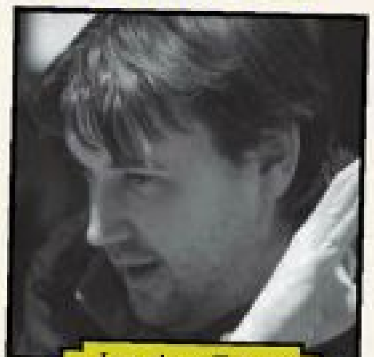
Industry figures leave their recollections, thoughts and opinions on Dave Reidy's classic franchise


Jon Ritman

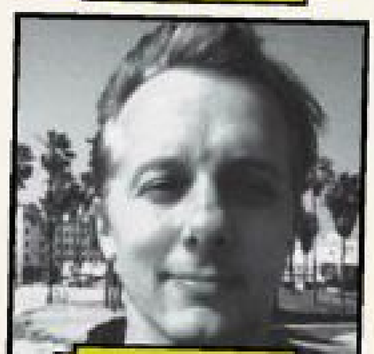

Alex Trowers

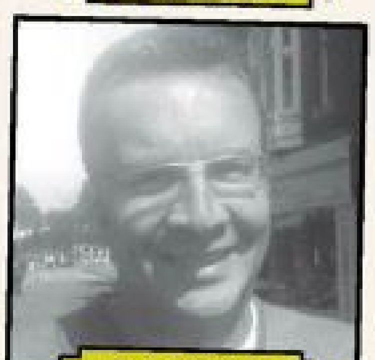

Mark Jones

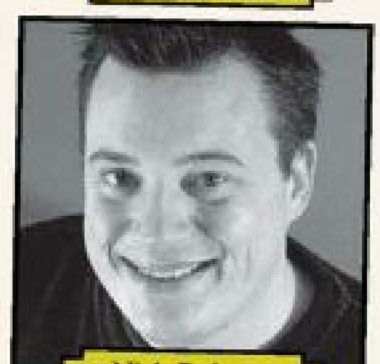

Malcom Evans


Jonathan Evans


Bill Harbison


John Nash


Steve Wilcox


Nick Roberts

Jon Ritman, co-creator of Batman and Head Over Heels
"I played Skool Daze for a while, mostly because I thought it was a lovely idea that would appeal to those players still at school (school was a distant memory to me at the time, thank God). It had some great touches and was fun, even if it wasn't the deepest game in the world."

Alex Trowers, Bullfrog Productions
"I thought Skool Daze and Back To Skool were great games. It was the closest you could get to being in an actual episode of Grange Hill – all that was missing was the flying sausage/fork combo."

Mark Jones, Ocean Software
"Me and my schoolmates used to play both games quite a lot when they had just come out. I have more recollection of playing the first one, probably because it was so unlike anything that had come out before. Like everyone who was at school and played either of these games, I had great fun renaming all the characters to teachers and mates from the school I was attending at the time, which for me was the Northampton School for Boys. I didn't even really play it properly. I'd go to a few lessons, then try causing a bit of trouble and see how long it would take for me to get some lines. It was the first game I think that I'd ever played that made going to school seem fun! It was quite clever too. David Reidy had made a game that would appeal to virtually everyone who had a Spectrum."

Malcolm Evans, creator of 3D Monster Maze
"I never had a wish to return to school in the Eighties. Though I think I must have spent most of the Sixties in a daze for I remember little of that either."

Jonathan Evans, Design Manager, Blitz Games Studios
"As much as people loved the idea of Skool Daze with all its glorious, violent anarchy, the best thing wasn't the gameplay itself. No, the best thing about Skool Daze was the half hour spent at the beginning of every single game typing in the names of all your actual teachers, so when you gave them grief in the game you were actually griefing your real teachers. That was amazing – just about the best thing I'd ever done in a game. Also, it didn't mind if you used swear words. Yet another reason why it was better than Grange Hill."

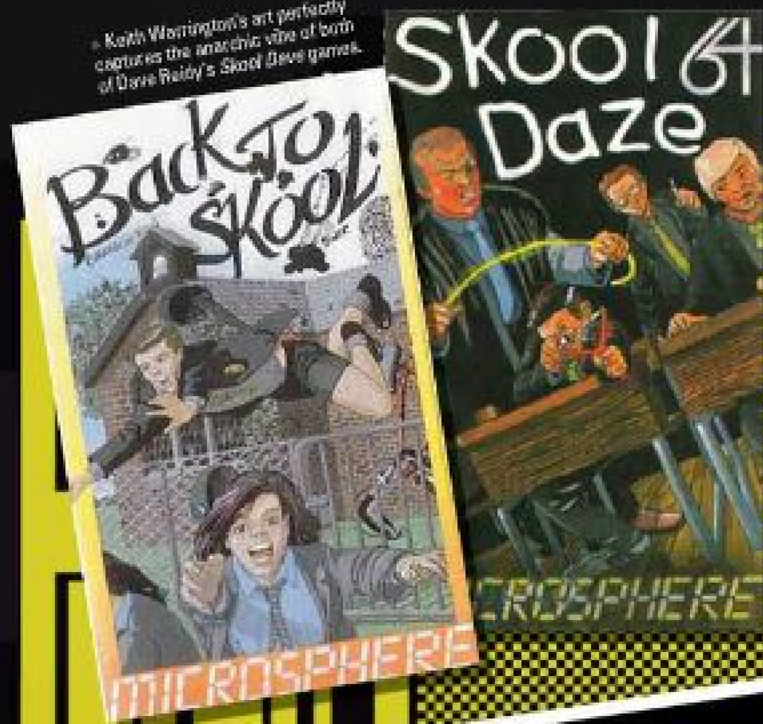
Bill Harbison, Ocean Software
"Skool Daze caused a bit of a stir at my secondary school. Not only was it a great game, but the characters bore striking resemblances to the teachers and kids in our class. Every time I played it I had to begin by renaming all the characters to the people I knew, and it was so much fun to live out my violent school fantasies in the game rather then the playground. The graphics were spot-on; they were stereotypes, of course, but abstract enough for you to recognise them as people you knew. Back To Skool was even better, and added an extra dimension to the game with the introduction of girls. Even more fantasies were played out in that game."

John Nash Studio Design Director, Blitz Games Studios
"Looking back with magenta-tinted glasses, I can recall the endless hours my brother and I spent hunched over our beloved Speccy revelling in the delight of a new kind of game experience – sandbox play. The heady mixture of Skool Daze's self-directed play and being able to live the prankster dream in a parallel school was a revelation, a breath of fresh air in a market saturated with hardcore pixel platformers. Like so many other aficionados of the diminutive dead flesh slab, for me Skool Daze = happy days."

Steve Wilcox, founder of Elite Systems
"The principal reason for including Skool Daze (and indeed Back To Skool) in our ZX range of apps is that both games were among the 'ten-most-requested' by the thousands of people who acquired our iOS app ZX Spectrum: Elite Collection back in October 2010. Also, Skool Daze was a genuinely unique title in its day and (Back To Skool aside) remains so today."

Nick Roberts, Crash reviewer
"Skool Daze and Back To Skool are all-time Spectrum classics, without a doubt. We take the fact that you can go anywhere and do anything in games for granted these days, but in 1985 being able to roam the school corridors in lesson time, pick up mice and drop them in the girl's school and go joy-riding on the caretaker's bike was groundbreaking stuff alright! Replaying the games recently with my six-year-old, you can still see the spark and thrill of playing a game based in a school in the eyes of a current schoolboy. Trying to explain colour clash to him was tricky though…"

» Keith Warrington's art perfectly captures the anarchic vibe of both of Dave Reidy's Skool Daze games.





SKOOL DAZE HEADMASTER MR WACKER TAKES US THROUGH THE POTTED HISTORY OF HIS CREATOR





BACK TO SKOOL WITH DAVE REIDY

Dave Reidy's contribution to the Speccy was incredibly important, so we were keen to speak to him again. Sadly, Mr Reidy wasn't free to talk to us, so we've included excerpts from his interview that first appeared in Retro Gamer 17, in case you missed it. You can read a full transcription of the original article at Mark Green's website – http://pixelatron.com/blog/skool-daze-feature-retrogamer/

"What I remember best are the things between lessons. Kicking balls around corridors, playing conkers, firing a catapult. Making fun of teachers. Making fun of other kids. And that was basically how I wanted *Skool Daze* to be. There'd be a major task to perform – but if you wanted to spend all your time beating people up, you could. Just like school."
- Dave recalls the other parts of going to school

"Going into 1984, people were copying so much. Somebody at the time estimated that for every game actually sold, there were seven copies made. That's probably about right. We used to get games returned as faulty from WHSmiths and Boots. Most of them played fine; they'd just been bought, copied, and taken back. Some of them had even been tampered with so people could 'prove' the game wouldn't load — recording a few seconds of silence, say. But there was nothing we could do about it."
- Dave on piracy

1981
Dave Reidy is working as a systems analyst. He purchases a ZX81 and starts writing business programs.

1982
Sinclair Research Ltd. releases the ZX Spectrum. It becomes a big seller for the company. Dave sets up Microsphere Computer Services, operating from his home in London.

1983
Microsphere releases its first game, *Crevasse/Hotfoot*, the spreadsheet program Omnicalc Series and printing application ZX-Sideprint, and then *Evolution* and puzzler *The Train Game*. *Wheelie*, released late in the year, becomes the company's most successful game.

1984
Skool Daze is released and becomes another hit thanks to its free-roaming gameplay. The company also releases 'copter shooter *Sky Ranger*. Its 3D graphics are regarded an impressive visual showcase for the Spectrum, but the gameplay is mediocre.

1985
Microsphere releases *Back To Skool*; it's another hit and the developer's only sequel.

1986
Colourful detective noir caper *Contact Sam Cruise* marks Microsphere's very last title.

A New Year Begins

Garnering glowing reports from the gaming press, *Skool Daze*'s unique free-roaming gameplay, colourful cartoon graphics and unusual setting helped it to instantly stand out from the racers, shooters and platformers that frequently saw release. Test scores saw it awarded 93 per cent in *Crash*, with one impressed reviewer stating that "from the moment you see *Skool Daze*, you fall in love with it", and an equally impressed *Sinclair User* writer remarking that "*Skool Daze* explodes into the imagination with a cloud of chalk dust and a hail of catapult bullets". So with *Skool Daze* helping to make school cool in the eyes of many kids across Britain, and sales of around 50,000 copies, Dave decided that it would be a good idea to stick at school for just a little while longer and released a sequel, *Back To Skool*, the following year.

Back To Skool might seem extremely similar to the original but it expanded on the formula brilliantly. Reuniting fans with Eric, the school had received something of a refurbishment between releases. The builders had given it an entirely fresh new layout and a fresh lick of paint too. New classrooms were kitted out with new equipment, the school was larger than before, and there were even more seats too. A Human Rights group had also done an inspection of the facilities and ordered that the school install a toilet (though you couldn't perform a spot of bog-washing on Einstein, sadly), and girls arrived on the scene thanks to a neighbouring girls' school that was cordoned off by a tall (but easily circumvented) fence during lesson time and open to explore during playtime.

While the *Skool Daze* faculty returned to make Eric's life a misery, *Back To Skool* introduced a selection of new characters. During the summer holidays Eric had gotten a girlfriend, Hayley, who attended the girls' school, and Eric could butter her up and palm off a few lines onto her. If he did this too often, however, she quickly grew wise to his using ways and promptly showed him the door. Furthermore, as well as Hayley and the usual school masters, Eric now had to contend with a grumpy headmistress, Miss Take, as well as a caretaker named Albert who patrolled the sports field and was often a target for abuse from the kids – Wacker would often use assembly as an opportunity to weed out who was responsible for terrorising the groundsman during playtime.

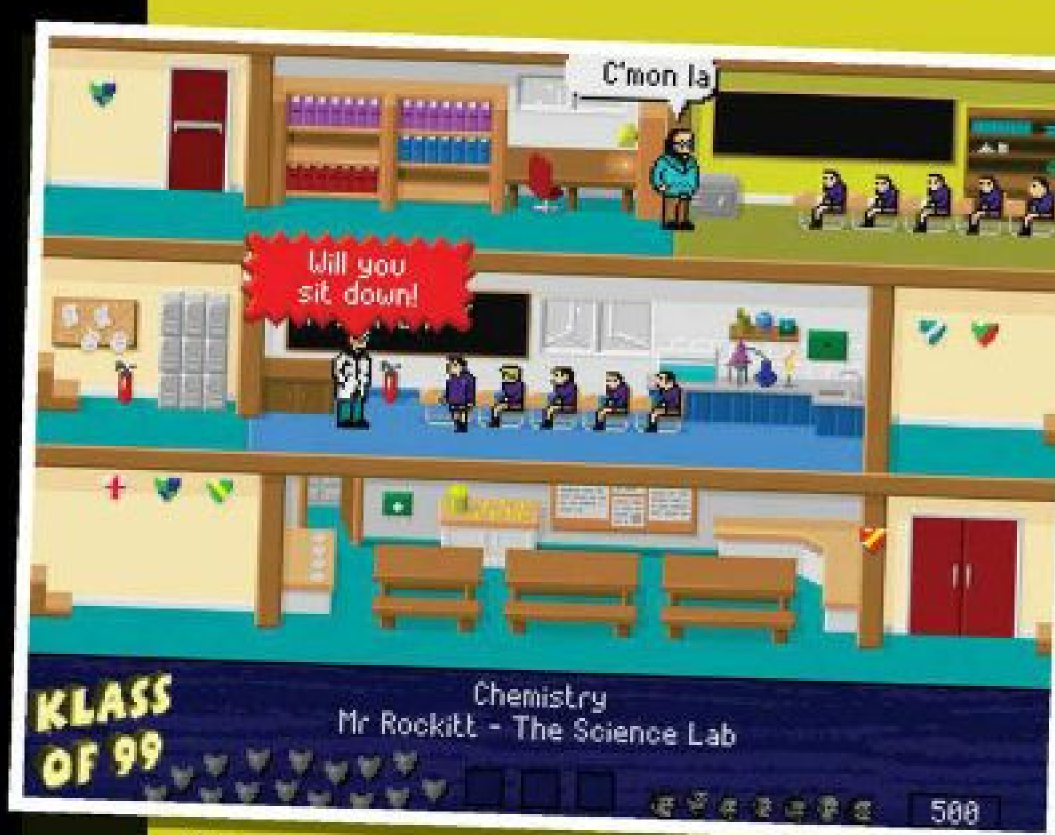
The level of interaction and hijinks Eric could perform was also expanded upon. In addition to using his trademark catapult, Eric could now find and use a water pistol, steal and ride a pedal bike, and open desks and take their contents. The mission also made better use of the school environment and the characters too. Running around bashing shields in the pursuit of unlocking codes from teachers' brains was amusing, but it was the mischief that the game allowed you to get up to away from the main mission that people loved most about *Skool Daze*. While a spot of shield bashing still had to be done in the sequel, progress now required Eric to set into motion all kinds of amusing action sequences, from frog and



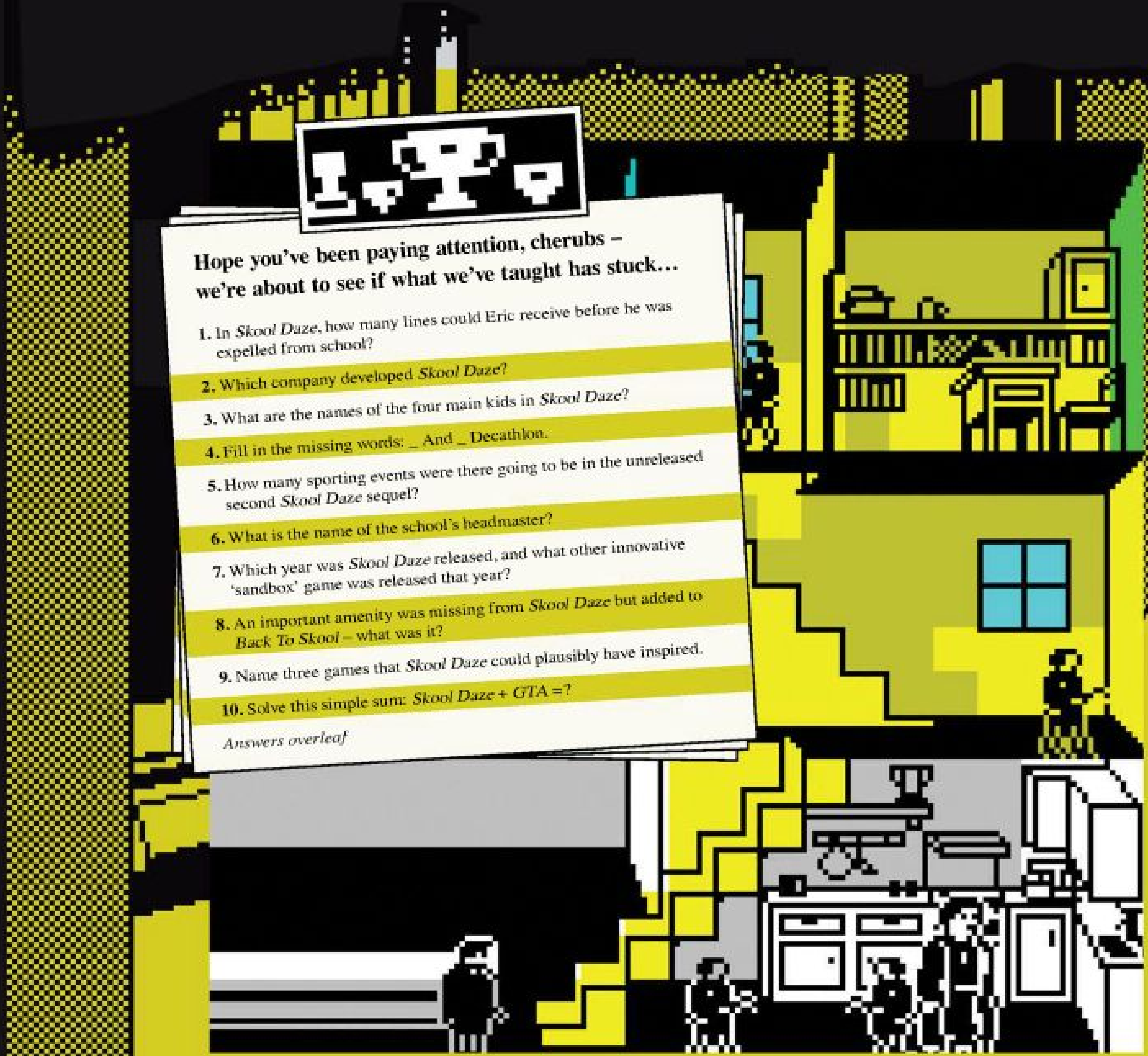
"All the characters are those comic book stereotypes, because by and large all schools are the same... There's always you. There's always the popular people — who you hate, of course. There's always a bully. There's always a swot. And *Skool Daze* was about giving people characters they would recognise. And making it funny, and enjoyable to play. Which, of course, meant making it a little bit evil."
- Dave on the inspiration for *Skool Daze*'s cast

"I just left Keith to it. What he came up with was really very good. The swot had an egghead, the bully was a little bit broad-shouldered and butch, Boy Wonder was blond and attractive and flowed around the place – don't you just hate people like that? Where Keith got his inspiration from, I don't know. He was heading off to be a teacher then, so he probably modelled it on people he knew."
- Dave on creating the character design

"We sold around 50,000 copies of *Skool Daze*. Ten years later, we were thinking that we could have made a lot more money at the time, if we'd been clued up and actually done some proper marketing and merchandising. But I'm not going to cry at the opportunities we lost. We made a decent living out of *Skool Daze* – it paid for its development, a few times over. Keith bought a second-hand motorbike on the proceeds."
- Dave on the success of *Skool Daze*



[PC] *Klass Of 99* is a loving, full-colour homage to the *Skool Daze* series.



Hope you've been paying attention, cherubs – we're about to see if what we've taught has stuck…

1. In *Skool Daze*, how many lines could Eric receive before he was expelled from school?
2. Which company developed *Skool Daze*?
3. What are the names of the four main kids in *Skool Daze*?
4. Fill in the missing words: _ And _ Decathlon.
5. How many sporting events were there going to be in the unreleased second *Skool Daze* sequel?
6. What is the name of the school's headmaster?
7. Which year was *Skool Daze* released, and what other innovative 'sandbox' game was released that year?
8. An important amenity was missing from *Skool Daze* but added to *Back To Skool* – what was it?
9. Name three games that *Skool Daze* could plausibly have inspired.
10. Solve this simple sum: *Skool Daze* + *GTA* =?

Answers overleaf



mice drops at the girls' school to letting off a stink bomb to cause a teacher to open a window. With smoother scrolling, improved visuals and a greater level of depth, *Back To Skool* was a great follow-up, and reviews reflected that, with the series upholding its 93% in *Crash*, and receiving nine out of ten in *Your Sinclair*. Top marks.

Sports Day's Cancelled

As reported in magazines at the time, Dave had planned to make a third game in the series. With the working title of *Eric And Hayley's Decathlon*, it was planned to be a school-themed send-up of *Daley Thompson's Decathlon*, comprising ten sporting events stapled together with 'interactive scenes'. Gelling *Skool Daze* with *Daley Thompson* sounds like a winning formula, and package art for the game was even drawn by Keith. But sadly the sequel never got past first base and the final bell ultimately sounded for the series.

In an early **Retro Gamer** interview in issue 17, David placed much of the blame for the school shutdown on something that commonly irks teachers – copying. With piracy rife and budget games starting to dominate the market, after the release of *Contact Sam Cruise*, a colourful 1930's detective noir action-adventure game that shares a similar look to *Skool Daze*, David decided to abandon games, concluding that profits were becoming too stretched by piracy, and fed up with working and damaged games being returned to retailers by cheeky little Boy Wander types.

Of course, play close attention to the games industry and you'll see *Skool Daze*'s legacy endures. Though *Ant Attack* predated its release by a year and seminal BBC classic *Elite* shares its birthday, *Skool Daze* is arguably the first example of the modern 'sandbox' game. Its free-roaming gameplay and real-world setting made it unique, and its influence can be seen in everything from *Shenmue* and *GTA* to the *Sims* series and, of course, *Bully* (aka *Canis Canem Edit*) – which took many of the ideas and themes of *Skool Daze* and then let them lark about in a three-dimensional playground. Like a teacher imparting some lasting wisdom, the series has certainly had a profound effect on the games industry, and is still fondly remembered by many gamers today. And so ends this lesson about the *Skool Daze* series. We hope you've been paying attention as you're going to be tested on what you've learnt. So, when you're ready, turn over the page and begin answering.

A MOMENT WITH KEITH WARRINGTON

We speak to the Microsphere graphic designer and cover artist about his time working on the *Skool Daze* series…





How did your collaboration with Dave Reidy come about?
Dave married a girl called Helen who was my next door neighbour when I was a kid. Our mums had kept in touch, and so when I moved to London to be an illustrator and Dave needed some cassette inserts designing they got in touch. By coincidence they lived in Muswell Hill and I lived in Hornsey, so I could walk to their house across the grounds of the Ali Pali (which at the time was pretty derelict).

What was it like working for Microsphere? Was it on a contract basis or full time?
I was paid for each job. I kept a record of the hours and gave Dave a bill. He was extremely good, and when I gave him the first one he informed me that he thought I was underselling myself and that I should charge a lot more. You don't get clients like that these days (and you didn't much then either).

Why did you decide to leave the games industry?
I didn't – Dave found that after releasing the first couple of *Skool Daze* games he was hardly making any money because of all the copying and deliberate damage to cassettes to get a refund, so he decided to give it up. I think I just carried on working for whoever wanted a graphic designer/illustrator for a while, but I was also doing teacher training and eventually got a job teaching.

What are you currently up to?
I did 25 years of teaching, got fed up with the way the system was being used as a political gimmick at the expense of teachers and students, gave that up, and I am now a portrait artist who fills in with custom paint work and illustration as well. I've been constructing a website for about two years now, but paid work keeps getting in the way.

Did you work on any games outside of the *Skool Daze* games and *Contact Sam Cruise*?
I did inserts for *The Train Game*, a motocross game I've forgotten the name of, an application called ZX-Sideprint, a 3D helicopter game that was way ahead of its time, and I think I did the cockpit instruments for *Crevasse*, and maybe a couple of others. But the Eric games were the only ones I did all the graphics for.

Were the teachers and children modelled on real-life people?
Some were – the cool, 'with-it' teacher was modelled on my favourite junior school teacher, Mr Sykes.

How long did it take to create the graphics for the *Back To Skool* games, and what art packages did you use?
It took a few weeks to do the original, but the second was a lot quicker as I knew what I was doing by then. I wasn't into games at the time and had to get a Sinclair Spectrum (which I recently found in the loft) to see my own graphics in action, so to speak. There were no art packages that I knew of. I designed all the characters and buildings by filling in squares on graph paper to represent the pixels, and just had to keep standing back to get an idea what they'd look like on screen. I then took them round to Dave and Helen's and he programmed them in.

You're credited as the artist on the C64 version of the game. What was your involvement exactly?
Nil. They just reused my graphics I think.

What can you tell us about *Skool Daze 3*?
It was called *Eric And Hayley's Decathlon* – a pun on *Daley Thompson's Decathlon* – and was going to feature the school sports day. I designed the insert card which featured Eric and his girlfriend hurdling the school wall at high speed, but Dave went off round the world with Helen for a long holiday, and when he got back he never did any more work on it. I had the insert kicking around for years as Dave had paid me for it in advance before he went away and, as technically it was his property, I couldn't bring myself to throw it away. However, after the last time I moved house I've not been able to locate it.

Are you surprised that there is still so much interest in these games you were involved with after all this time?
In some ways yes, but Dave Reidy was a genius in my opinion. Those games were far more intelligent and witty than most, but times have moved on a great deal since and games are massively more sophisticated now. Those kids who pissed Dave off so much he quit the business will have grown up and become nostalgic for their misspent youth like most of us do. It wasn't part of my youth really, though, and I wasn't particularly happy in London, so while I'm pleased people are interested and can still enjoy them, I was glad to move on. When I look at the covers now I think they're pretty poor.

» These days, Keith applies his art to three-dimensional real-world objects rather than imaginary videogame worlds.



SKOOL TIMETABLE

Ever imagined what school would be like if the National Curriculum was taught using the medium of videogames? You can stop imagining…

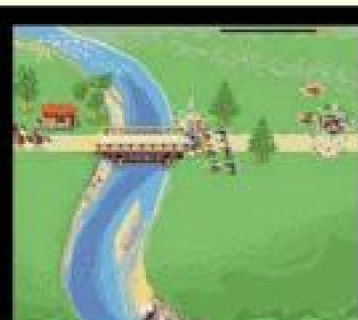






DOUBLE HISTORY

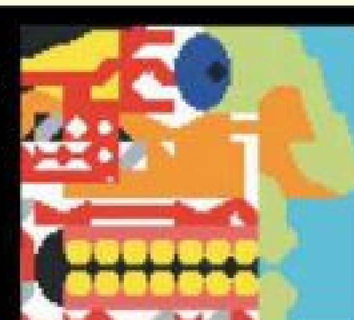
Mr North and Mr South



Based on a Belgian comic books series, *North & South* is fun, entertaining and loosely educational. Set during the American Civil War, you choose a side and then battle to win control of the various states and regions of the US.

BIOLOGY

Mr Mike Rowe-Surgeon



This Intellivision title has a clear *Ultimate Voyage* vibe. *Microsurgeon* let kids to explore the inside of the human form and protect it from infections using a tiny submersible that has been super-miniaturised to the size of a flea's kneecap.

PHYSICAL EDUCATION

Mr Jack Enfield



Don't forget your PE kit or you'll be forced to play in your underpants, or the school's regulation punishment kit – someone else's found in a dustbin. *Track & Field* features six events to master, including Hammer, Javelin and Hurdles.

BUSINESS STUDIES

Mr Ade Stand



Lemonade Stand puts players in charge of a fledgling lemonade drinks enterprise. After considering a daily weather report, they had to determine how much to spend on ingredients and advertising and then set how much to charge to turn a profit.

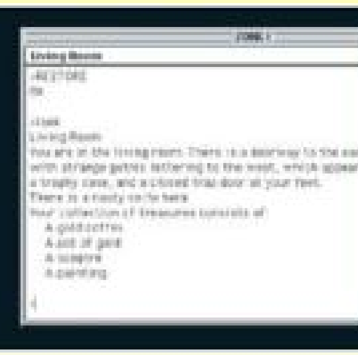
MATHS
Miss Donna Key

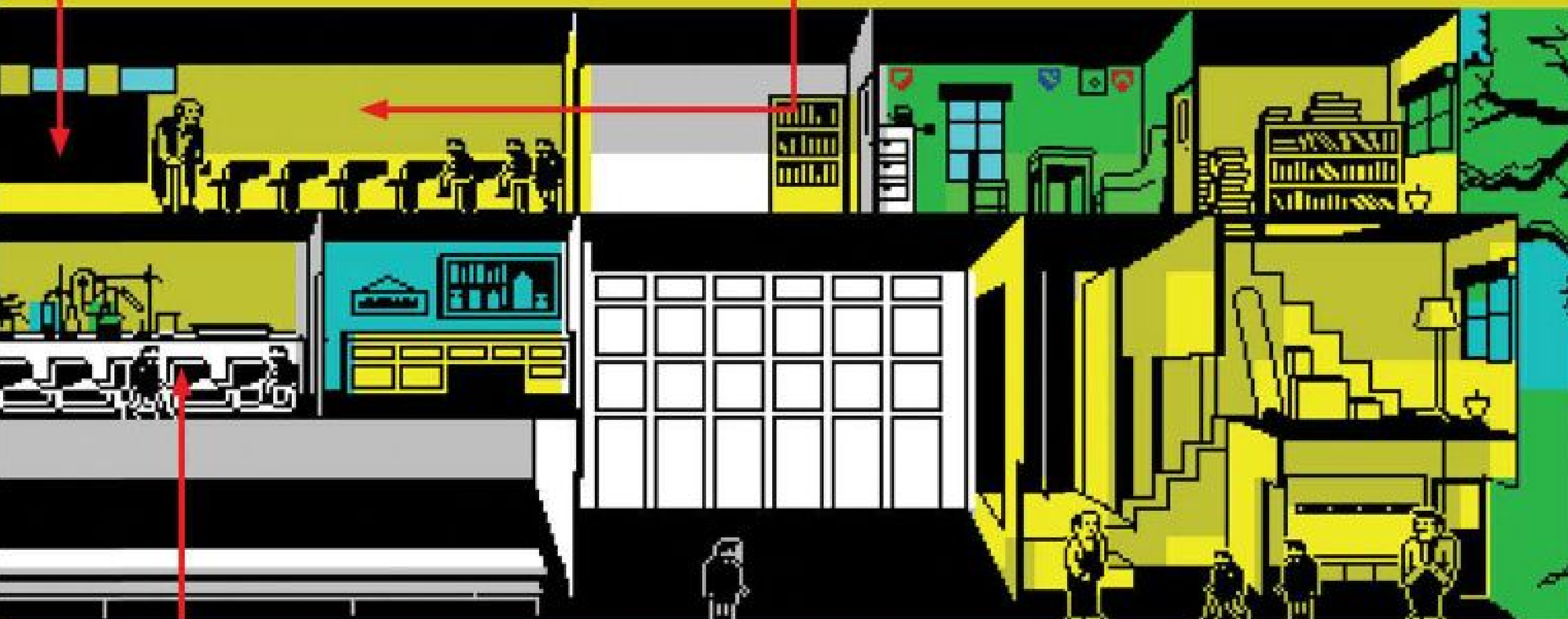
If Nintendo is unable to make maths interesting for kids then no one can. The worst-selling launch title for the NES, *Donkey Kong Jr. Math* saw Jr. creating formulas that equated to the number shown by his pops. An admirable idea, but ultimately it's still maths.



ENGLISH
Mr Grue

Zork is an adventure classic that would have no doubt become an essential play had text adventures formed part of the National Curriculum. You play a nameless adventurer hunting for treasure in a dangerous ancient underground city.





PHYSICS
Mr R Goldberg

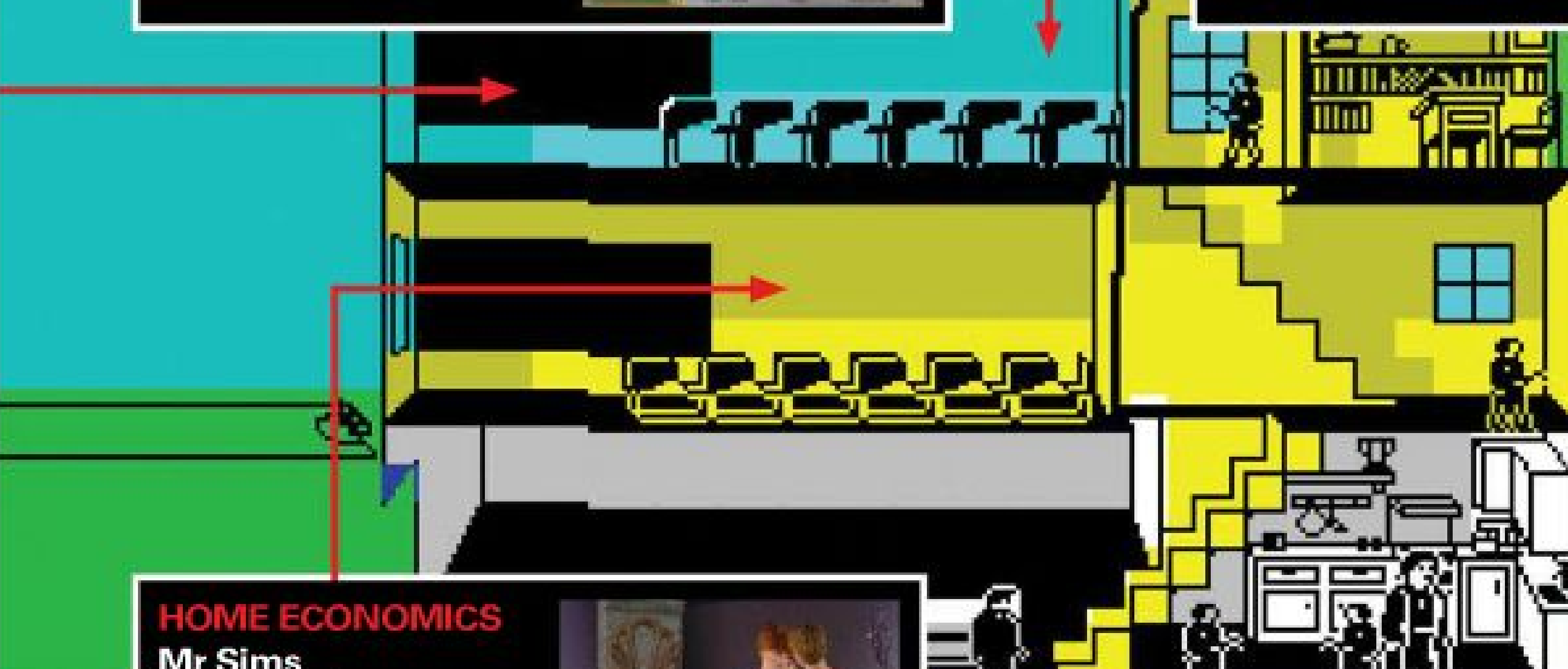
The Incredible Machines tasks you with completing a series of simple and sometimes inane tasks – from popping a balloon to blowing up a fish tank – by constructing elaborate contraptions using various everyday objects and considering physics.



RELIGIOUS STUDIES
Mr Christian Lord

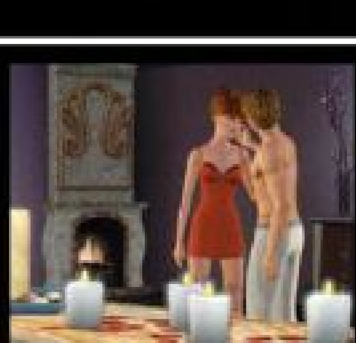
Bible Adventures takes three famous bible tales – Baby Moses, Noah's Ark and David and Goliath – and realises each as a mediocre side-scrolling platformer. It's probably sacrilege… but hey, had your teacher let you play it in lessons you wouldn't have complained.





HOME ECONOMICS
Mr Sims

A life simulator that covers everything from house and baby making to working and socialising, *The Sims*, a hugely successful *Sim City* spin-off, is the perfect application to help prepare you for life in the real world.



Test Answers:

10,000 / Microsphere / Eric, Boy Wander, Angelface, Einstein / Eric And Hayley's Decathlon / Ten / Mr Wacker / 1984, Elite / Toilets / Bully (Canis Canem Edit), The Sims, Bonanza Bros., The Great Escape, Where Time Stood Still, GTAIII / Bully (Canis Canem Edit)




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THE MAKING OF FINAL FANTASY VII

IN THE MID-NINETIES, SQUARE'S FLAGSHIP FRANCHISE ABANDONED NINTENDO'S HARDWARE AND EMBRACED THE PLAYSTATION, A MOVE THAT WOULD LEAD TO FINAL FANTASY VII, AN AMBITIOUS, REFINED AND ENORMOUSLY INFLUENTIAL RPG. DIRECTOR YOSHINORI KITASE AND ART DIRECTOR YUSUKE NAORA DISCUSS THE CREATION OF THIS MASTERPIECE WITH US IN UNPRECEDENTED DEPTH. STEVEN SPIELBERG'S JAWS FITS INTO IT SOMEWHERE, AS SAMUEL ROBERTS DISCOVERS…

Without hyperbole, *Final Fantasy VII* is the RPG that changed the genre. Opening the Western floodgates to Japan's own style of role-playing and popularising the entire sub-genre, the 10-million-plus-selling game was, for many players, their introduction to the potential of interactive storytelling and the first videogame narrative to leave a mark on them. It's also divisive, anecdotally referred to as the most returned game of all time and often criticised by Western RPG veterans – yet such cynicism can't mask the impact it had upon release in 1997. Along with Gran Turismo, Final Fantasy VII shifted millions of PlayStation consoles by demonstrating the machine's capabilities, captivating gamers with a fictional universe of unrestrained scope and style that would govern an entire corner of the industry. Back when the game was being created, Square (today known as Square Enix) was a company in transition, and the influx of talent that brought FFVII into being, as well as a development culture that fostered creativity, was ultimately responsible for this deservedly celebrated RPG.

At the 1995 SIGGRAPH computer graphics convention in Los Angeles, the company formerly known as Square presented an interactive demo to the world that showcased its *Final Fantasy* property in unprecedented fashion. This project

depicted three characters from *Final Fantasy VI* fighting a Golem enemy in full 3D, a jaw-dropping contrast to the SNES-based 2D roots of the game, complete with visual effects and cinematic in-battle camera angles that implied a future beyond the static staging of the series' stories up until that point. When you look at the tech demo now, you can absolutely see the founding technical conceit of *Final Fantasy VII* embedded within it. Squaresoft saw that *Final Fantasy* could be so much more on a platform that allowed the company to experiment with such high-end technical ideas.

The SIGGRAPH project would form the 'seed', as producer and creator Hironobu Sakaguchi dubbed it on a promotional video for the game, of *Final Fantasy*'s move into the next console generation. To any seasoned gamer, the most well-known part of the development of *Final Fantasy VII* is the defection that started it all. Long considered a Nintendo stalwart since the original *Final Fantasy*'s release on the NES in 1987, Square shifted to the PlayStation for its CD-ROM capabilities over the N64's comparatively limited cartridges. This fit the grand ambitions of this new sequel.

"We were fans of Nintendo's hardware, although in order to use CG movies in the game like we intended, we needed a lot of storage space, and for that reason decided on a platform that used the higher-capacity CD media," director Yoshinori Kitase tells us.

How ironic that this franchise would soar on a Sony platform, given that Nintendo publicly broke away from a CD-enabled SNES collaboration with the electronics giant earlier in the decade. The emerging disc format enabled *Final Fantasy VII* to be far more cinematic than its forebears – an important factor, especially to Sakaguchi. Yet an interesting factor in all this was the set of technical influences on the team, many of whom were from Western game development, as Kitase explains to us: "We looked at trends in the foreign-made PC games of the time, such as *Alone In The Dark* and *Heart Of Darkness* [and so on], and made it our objective to combine together smooth action sequences using polygon-based characters and clever camera work with the insertion of effective CG movies at a high level. I believe that we pretty much achieved our goals in this regard."

When it came to setting and story, *Final Fantasy VII* would similarly be a departure from series convention. While the previous entry in the series had a pronounced steampunk theme, the set of environments in the seventh game would vary massively from continent to continent, from a vast, polluted metropolis to backwater towns; that clash of







DISTRACTIONS

The best of Final Fantasy VII's many extra tasks and mini-games



Chocobos

Catching them, riding them, racing them and breeding them – the Chocobo element of *FFVII* is a game in itself, and becomes bewilderingly complex when you're looking to breed that lucrative Gold Chocobo, which can reach parts of the map that even the Highwind cannot.



Battle on Fort Condor

Visiting Fort Condor triggers this intriguing little strategy offshoot, where you fund small skirmishes to hold back Shinra forces from the giant bird perched atop the fort. It's no *Age Of Empires*, but it shows how diverse the ideas are in *FFVII*.



Snowboarding

On the second disc, Cloud gets the opportunity to snowboard down a mountain. Later in the game, it re-emerges as a tricky arcade game at Gold Saucer's Wonder Square. This mini-game was popular enough to justify a mobile spin-off, which is naturally only available in Japan.



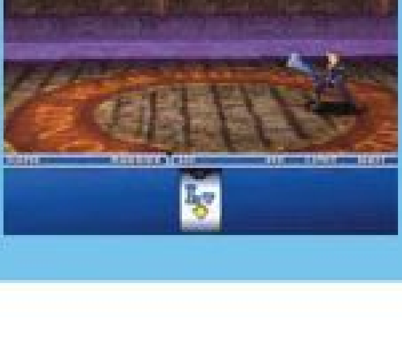
Motorcycle Chase

One of the nicest surprises early on is an action-based mini-game where you have to protect your comrades from Shinra soldiers on bikes by ramming them off the road with Cloud's inexplicably large Buster Sword. It's great fun.



First-person Shooting

Visiting the 'Speed' part of Gold Saucer triggers this bizarre but quite impressive first-person shooter section, where hitting a high score lands you a prize. This is notable for its kaleidoscopic visuals, in stark contrast to much of the game.



Battle Arena

The only way to get Cloud's Omnislash Limit Break outside of the finale, and a clever means of extending the combat's appeal, the battle arena on Gold Saucer is a relentless challenge where you have to survive successive rounds of enemies and status ailments.



FINAL FANTASY VII'S UNSUNG HERO

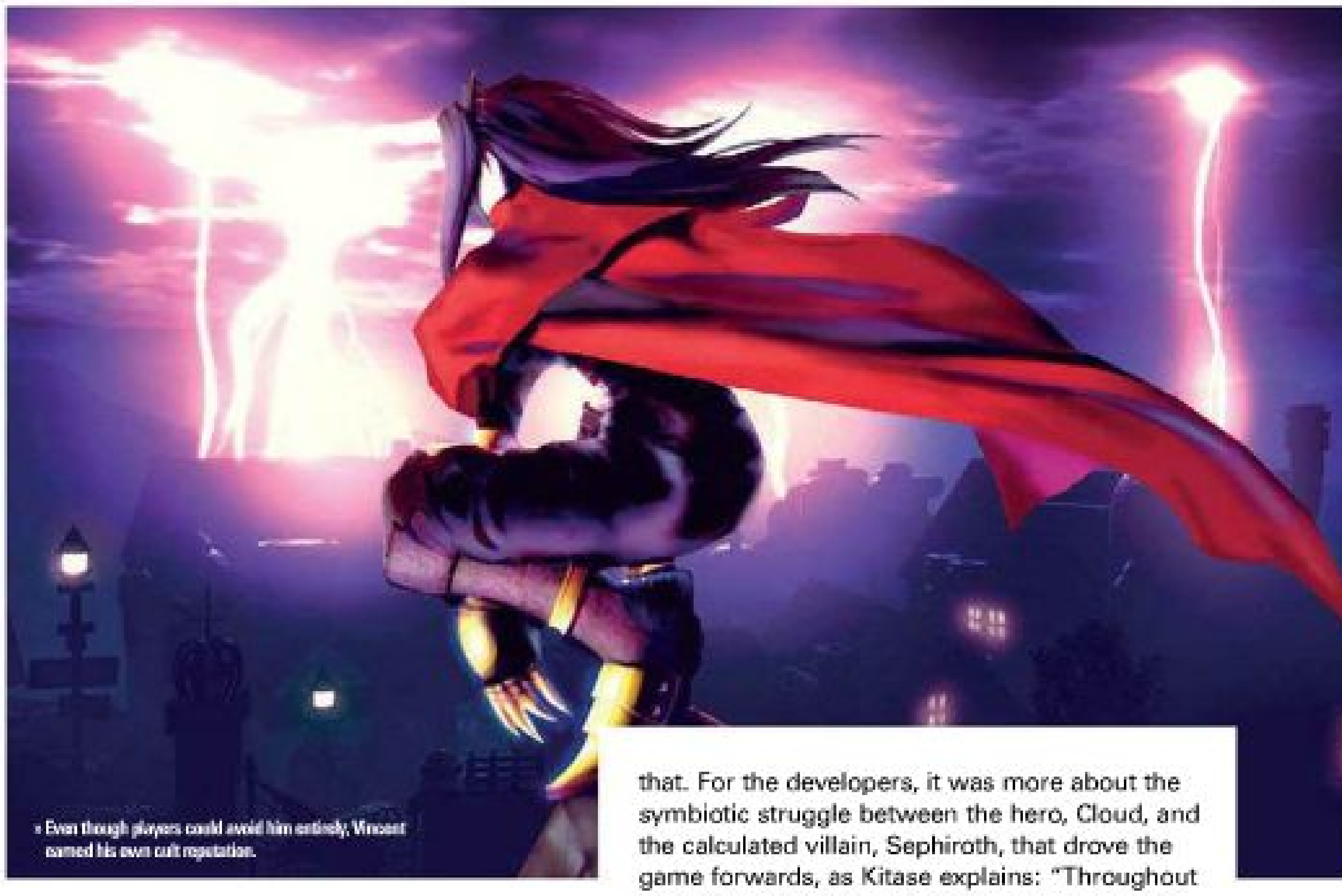
Kitase weighs in on the oddly high popularity of Zack Fair, Cloud's former mentor

As you may recall, the entire flashback sequence where Cloud remembers the events in Nibelheim that led to Sephiroth's transformation into a twisted enemy turns out to be a bit different. Later, we learn that Cloud confused himself with Zack, his superior in the army. Ever since then, Zack has remained a popular figure among *Final Fantasy* fans, which led to the spin-off *Crisis Core*. His role in Cloud's story makes him a unique element in *FFVII*'s tangled web.

"Zack is the vessel onto which Cloud twistedly projects his complexes towards SOLDIER [Shinra's elite fighting force]," Kitase tells us. "He was created by the scenario writer, [Kazushige Nojima], as he was trying to build up the mystery surrounding Cloud's past, and we did not originally think of Zack as a major character, but he seemed to be strangely popular with the fans. Much later on, Zack featured heavily in *Crisis Core*, and Mr Nojima was in charge of the scenario for both titles. When he first created Zack, I doubt that he could possibly have thought that we would be delving into the same character's story ten years on!"

» [PSone] *Final Fantasy VII*'s Materia system is so deep that it can eventually transform the entire rhythm of a battle, by letting you alter the conditions of it.





» Even though players could avoid him entirely, Vincent earned his own cult reputation.

futuristic technology against these remnants of a beautiful old world.

We asked Kitase to discuss the inspirations for the planet's creation, and he graciously passed our questions on to *FFVII*'s art director, Yusuke Naora. "Initially we wanted to try something new by having a corporation as the major enemy while still keeping the game broadly in the fantasy genre," he explains, referring to the Shinra Electric Power Company. "Having decided on this concept, we actively included many steampunk-like elements to try to merge the appeal of traditional high-fantasy 'brick-built' structures and sci-fi elements at a high level. However, as there was to be magic present in this world, it would have been hard to have cyberpunk-esque unknown future technology sitting comfortably with the other influences, so we tried to keep that aspect down as much as possible."

Naora continues: "On the design side, we were also very much inspired to mix in things from many different periods in a semi-chaotic manner, including things from our everyday lives such as the newer buildings in Tokyo, the streets of Ginza, and the Shibuya station building." All this led to a laudably diverse set of environments, which still felt like a cohesive part of the same world.

The setting was closely connected to the narrative – the backdrop of *Final Fantasy VII*'s story is that the planet is suffering, being mined of resources by the ruthless Shinra, which is also a prominent military force. Yet the central conflict of the story is actually smaller-scale than that. For the developers, it was more about the symbiotic struggle between the hero, Cloud, and the calculated villain, Sephiroth, that drove the game forwards, as Kitase explains: "Throughout the story I really wanted to depict Sephiroth as an overwhelmingly powerful threat. However, if you have a villain as an actual opponent who appears before the heroes then however strong or charismatic you make the character, he will still feel very much 'life-sized' and limited in scope, reduced to another minor evil."

What source of inspiration helped the team tackle this issue? You'd be surprised. Kitase continues: "To solve this problem, I decided to present Sephiroth indirectly, making the player aware of his existence through hints and stories but not having him show himself before them much. The player sees the aftermath of his ruthless deeds but does not arrive at the source of the evil for a long time. This was the same method used by Steven Spielberg in the film *Jaws*. Finding the butchered President Shinra on the top floor of the Shinra building and the impaled body of the Midgar Zolom are moments symbolic of this approach."

Players don't properly encounter Sephiroth until they're around ten hours in, and even then it's in fleeting glimpses – we see him prominently in flashbacks, leading to the discovery about his sad origins and subsequent breakdown. He, along with the attached musical theme, *One-Winged Angel*, would become iconic aspects of *FFVII* upon release. Cloud, the amnesiac hero trying to piece his distressing memories back together, was an equal point of fascination for players. It's this dynamic, with their subsequently explored

> "WE MADE IT OUR OBJECTIVE TO COMBINE SMOOTH ACTION SEQUENCES WITH CG MOVIES AT A HIGH LEVEL"



history of bloodshed and trauma, that players hadn't seen before in *Final Fantasy*. "Furthermore, however far the player pursues him, Sephiroth is always just out of reach, and because of this our image of him becomes more and more idolised and idealised," explains Kitase. "This story structure also overlaps with the reasons that Cloud has such a complex about his own past, and I believe it is an effective tool for showing the relationship between the two characters."

THE GREATEST MOMENTS OF FINAL FANTASY VII

Not featuring Cloud in a dress

That death…

You knew it would be this – shocking, sad and brilliant on the part of the Squaresoft team, a certain character is murdered by Sephiroth at the climax of the game's first act. It's notable because it is so brutal, but this brave move to take the character out of the story meant *Final Fantasy VII* would be forever remembered by players.

Omnislash

The entire game builds to this final conflict between Cloud and Sephiroth, where the hero slices down the grey-haired villain in spectacular fashion, using his final Limit Break, Omnislash. All right, so it isn't necessarily the first time you use Omnislash, but it's still a thrilling component of the game's conclusion.

The Weapons emerge out of the crater

Sephiroth unleashes Weapons on the planet, giant boss-style creatures that, when put together, look like something out of a Japanese monster movie. The idea of the optional super-boss is a *Final Fantasy* staple – here, they're made a key turning point in the story, in another example of Square's pioneering FMVs.

500 years later…

After the credits, we're treated to this brilliant but somehow chilling scene, 500 years into the future. We see Nanaki and his children running through a canyon, before emerging onto a vista that shows an abandoned Midgar, overgrown and free of the technology that drained the life of the planet.

The President is dead

When Kitase alludes to *Jaws*, he's referring to this scene where the player reaches the top of Shinra Headquarters and finds the President dead, impaled by Sephiroth's katana. It's a brilliant way to bring the villain into the story, having him lurk just out of reach.

Summoning Knights of the Round

Knights of the Round was easily the most lavish summon spell in the entire series up until that point. The animation for the attack, Ultimate End, sees 13 knights battering the enemy with a slew of extraordinarily powerful moves; a just reward for the exhausting process of breeding a Gold Chocobo to get it.

Sephiroth walks into the flames

The highlight of the entire Nibelheim flashback, told from the village of Kalm early on in the story, is an eye-opening cinematic where Sephiroth turns away from Cloud into the flames, after the twisted warrior burns the town to the ground. Perhaps the most visually recognisable part of the game.

Zack and Cloud escape Nibelheim

In this flashback, the events of the Nibelheim incident are fully disclosed. We learn that Cloud borrowed Zack's identity, and that this member of SOLDIER was gunned down by Shinra outside Midgar. This sequence is made all the more sad when you've earlier encountered Zack's parents in the town of Gongaga, where both his mother and father are completely unaware of his tragic fate.

Emerald Weapon swims out of the darkness

Late into the third disc, heading into the ocean with the submarine gives the player a few surprises, including the final whereabouts of the Turks, Shinra's agents whose paths cross yours throughout. That's before you see bubbles emerge out of the black, though – when the fearsome Emerald Weapon drifts towards you in terrifying fashion. Brr! It's an absolute bitch to kill, too.

Getting the Highwind

Final Fantasy as a series is ingenious in the way it lets you manoeuvre around the world. When you get the Highwind, you can go almost anywhere in the entire world, a gloriously freeing reminder of the diversity of locations within the game.

All the character designs and their personalities were left in the hands of the designers, a break from previous games, where Sakaguchi would oversee their conception. This was also the first project where Tetsuya Nomura would be the sole character designer, who, having contributed work to *Final Fantasy V* and *VI*, replaced Yoshitaka Amano from the previous titles. A *Famitsu* interview with Nomura (translated by Andriasang) explains that Cloud was essentially his creation, yet Kitase told us that determining both the looks and personalities of every one of *Final Fantasy VII*'s iconic cast of characters was "largely the responsibility of [Nomura]". It marked a sea change for the series. Gone were the primarily medieval, dreamy heroes of Amano, and in came a fresh, exciting array of heroes that would have an extensive impact on Japanese popular culture – not to mention birth a string of ideas that would be appropriated into character clichés, like spiky hair and giant swords. Amano would still contribute character sketches and the iconic meteor logo, however.

The immense back story for these heroes and villains was fine-tuned by scenario writer Kazushige Nojima, while many of the actual narrative ideas came from a unique exercise that once again showed Squaresoft's experimental approach. "When designing the game, we asked all staff on the *Final Fantasy* team to submit possible episode ideas for character back stories and created the overall stories by putting these together," says Kitase. "It was the scenario writer, Mr Nojima, who managed to put together a complete and detailed story from this massive pool of ideas, a process that was much like putting together a jigsaw puzzle."

This exercise led to an intriguing collection of stories across the cast of heroes, with one main plot driving it all: the planet's impending destruction at the hands of Sephiroth, where he would harness the world's natural defences – known as the Lifestream – for himself. The cast of *Final Fantasy VII*, including the tortured, unfocused Barret; last of an ancient race Aeris (or Aerith – a misspelling in the game's translation, as you probably know); and down-and-out pilot Cid Highwind; as well as more esoteric faces like the tomb-dwelling, optional companion Vincent Valentine, struck a chord with gamers, as their stories dovetailed skilfully with the main narrative.

These small tales, even Sephiroth's, traced back to the all-encompassing Shinra plot device – this corporation that is draining the planet of its resources. Given that *Final Fantasy VII* was made in the mid-Nineties, you could draw obvious

parallels with the real-world environmental issues at that time. Yet environmentalism, surprisingly, was not part of the team's storytelling agenda, Kitase explains: "We did not particularly plan on bringing out environmental destruction as a major theme of the game but rather intended the story to depict the internal struggles of Cloud and Sephiroth.

"However, if pushed I would say that this theme was not so much that of concern over destruction of the environment but more about how we wanted to show how civilisation and the environment coexist. Cloud and his companions first appear in the game as a group trying to take down the Mako reactors, but in the end we see them getting help from the Lifestream that is the source of that energy, and going forward into a future of coexistence with the planet. I believe that this theme of how we can strike a balance and live in harmony with the environment is one that is shared by all of us."





» [Top left] Catching and breeding Chocobos is one of the true tests of *Final Fantasy VII*.
» [Bottom right] *FFVII* is a high point for the series' stunning creatures, with Bahamut being a decent means of lazily dispatching enemies.





The Lifestream is the literal embodiment of the planet's energy, where all life emerges from and where it returns to with death. Its genesis came from Sakaguchi, who had come up with the idea as a reaction to tragic

"Sephiroth is always just out of reach, and so our image of him becomes more and more idolised"

events in his own life. "When we were creating *Final Fantasy III*, my mother passed away," he said in a video to coincide with *FFVII*'s release. "And ever since, I have been thinking about the theme of life. Life exists in many things, and I was curious about what would happen if I attempted to examine life in a mathematical and logical way; maybe this was my approach in overcoming the grief I was experiencing."

With that delicate balance in mind, an antagonistic force like Shinra seemed suitable – it also presented a fine opportunity to go against the curve of the last six games. "We had a feeling that ideas for villains in RPGs had kind of become stale and repetitive, with it always being something like a massive dragon or an evil ruler who had acquired an ancient power," says Kitase. "When we asked ourselves what a more modern take on a powerful evil would be, we came up with the idea of a corporation that pollutes the environment for excessive profit."

The most talked-about moment in this complex tale, though, would be the death of a major character. One of the conditions of running our exclusive interview from Square Enix was that we wouldn't reveal this character's name – but you know which one we're talking about. Everyone knows it. You might



RANDY PITCHFORD
CEO, Gearbox Software



"**Obviously, role-playing** games were a huge influence on *Borderlands*. *Final Fantasy* offered many of the standards and tropes that are borrowed by many role-playing games of today. The engagement and motivation that comes from levelling up and the draw of collecting loot first became clear to all of us when we did such things with pencil-and-paper games. While many PC games applied these principles, *Final Fantasy* managed to capture the design in a most accessible way at a time when our controllers had only a D-pad and two buttons. The elegance of the *Final Fantasy* approach to role-playing has inspired a generation.

In fact, the very first videogame that my wife and I played together from beginning to end was the first *Final Fantasy* game on the NES. To this day, we have fond memories of that experience and an irrational loyalty to the franchise. I know that many people see *Final Fantasy VII* as the high-water mark for the series, but for me it was the earlier *Final Fantasy* games on the NES and Super Nintendo that have had the most impact."

WHAT HAPPENS NEXT...

SEQUELS IN FINAL FANTASY



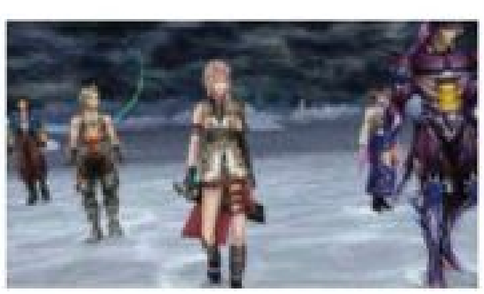
FINAL FANTASY X-2

Solid and technically superb but tonally misfiring, *Final Fantasy X-2* took *FFX*'s timid protagonist, Yuna, then popped on some hot pants and gave her a couple of guns. The game's 'Perfect' ending is almost worth playing through it alone for fans of the first game, though.



FINAL FANTASY IV: THE AFTER YEARS

Originally released on mobiles in Japan, then through WiiWare and again on the PSP with *Final Fantasy IV: The Complete Collection*, *The After Years* is a direct sequel that is built with the look of the original SNES title. The PSP version presents it in the most coherent, beautiful form.



DISSIDIA 012 [DUODECIM] FINAL FANTASY

Forget the stupid title. Aside from the unfortunate shortage of new content, this sequel to the fan-service-packed original is a top-notch action RPG that was snubbed last year, no doubt affected by the PSP's atrocious piracy rates. Nevertheless, it comes packaged with the first game, so get it if you have the chance.

have spent hours training this character up before the event occurred. It didn't matter. This character was wiped out of the story. Such a brave decision would be the defining moment, and it stunned this new generation of JRPG fans, and is still the subject of much conversation today.

It is odd that Square Enix declined to comment on the sequence, having done so in the past – even Kitase himself, back in 2003. It could be that the company is hoping new gamers discover *Final Fantasy VII* through the PlayStation Store, or that something new involving the game is in the pipeline. Either way, that moment was designed by Square to create a sudden void in the player, to make them think they'd have acted differently were they to know it was coming.

There are more surprises besides, though. A major plot point some way into the game sees the threat level raised significantly as giant creatures, a super-boss motif of the series known as Weapons, march into the overworld and heighten the drama of the closing act. The Emerald and Ruby Weapons are especially tough to beat, yet incorporating these powerful entities as part of the Sephiroth storyline imbued them with a new importance. Kitase explains why the team opted to do this: "In all *Final Fantasy* games, we always put in very powerful monsters in the latter parts of the game to challenge dedicated players and to deepen the gameplay experience, enhancing the longevity of the title and giving something to do aside from the main quest. We had already got the concept of the Weapons as defenders of the planet for *FFVII* and so decided to tie that together with these play-enhancing features."

But the story, despite forever being the guiding light for the *Final Fantasy* series, was matched by *FFVII*'s immense technical and mechanical advances. Creating a masterpiece of this calibre, with such scope in setting and the jaw-dropping amount of iconography that would define Japanese RPGs from there on, was the product of a talented group of people, sharing a potent creative culture. We asked Kitase about the team's dynamic at the time.

"Before *FFVII* we only really had 2D pixel art designers, but for this project many 3D CG specialists and designers came in from outside the company, leading to an interaction of various working cultures that was very stimulating," he says. "All the in-house designers also started to learn to use CG tools, and we held a lot of seminars and explanation meetings. I personally received instruction in how to use Alias PowerAnimator, and around a tenth of all the character motions seen in the game's event scenes were actually created by me!"

We had to ask Kitase if anything changed in development – and, as it happens, Square had a relatively airtight vision of *FFVII*, with only one change that fans will definitely have noticed.

> "When thinking about a modern take on a powerful evil, we came up with the idea of a corporation"

"The only thing that we had to change during development was the level of deformation on the characters. The fact that the characters are depicted at different levels of deformation in the field, battle and CG sections is a remnant of these changes." Whereas field characters ended up being blocky 3D models, the characters in battle had far more detail. As Kitase mentions, too, you can see this difference in CG movies – some depict the characters in blocky form, while others, like Sephiroth before the flames of Nibelheim, are more impressively realised. It's a curious inconsistency, but of course forgivable in the face of the finished product's other achievements.

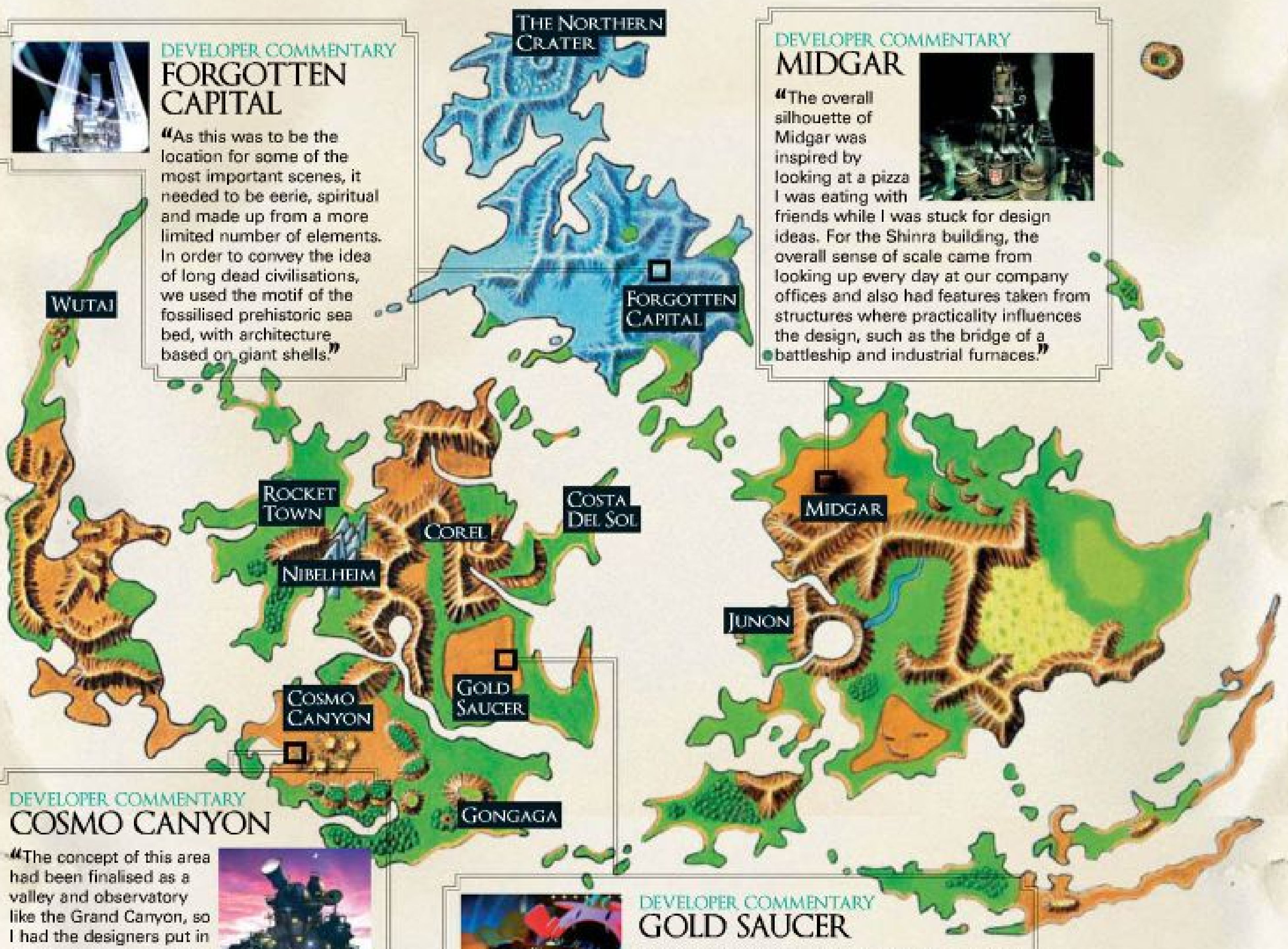
The locations have aged better, thanks to the heavy use of prerendered backgrounds. Yet part of *Final Fantasy VII*'s appeal to long-time fans was the introduction of a fully 3D world map. Despite the cinematic touches present in other parts of the experience, the world map was seen as an updated version of the SNES overworld. "This part of the game was not actually all that much of a challenge," says Kitase. "It goes without saying that, at the time, creating data for a 3D map was hard work, but for better or worse we decided to do the map along pretty similar lines to a 2D world map from the *Final Fantasy* games of the Super Famicom era, so there were not a lot of problems with the overall vision."



» The game's early Tifa/Aeris choices give you an opportunity to damage a girl's self-esteem.

THIS PLANET AS MY VESSEL

With insight from Final Fantasy VII's art director, Yusuke Naora, we pick out key locations from the story



DEVELOPER COMMENTARY

FORGOTTEN CAPITAL

"As this was to be the location for some of the most important scenes, it needed to be eerie, spiritual and made up from a more limited number of elements. In order to convey the idea of long dead civilisations, we used the motif of the fossilised prehistoric sea bed, with architecture based on giant shells."

DEVELOPER COMMENTARY

MIDGAR

"The overall silhouette of Midgar was inspired by looking at a pizza I was eating with friends while I was stuck for design ideas. For the Shinra building, the overall sense of scale came from looking up every day at our company offices and also had features taken from structures where practicality influences the design, such as the bridge of a battleship and industrial furnaces."

DEVELOPER COMMENTARY

COSMO CANYON

"The concept of this area had been finalised as a valley and observatory like the Grand Canyon, so I had the designers put in more of a medieval feel, with fantasy elements such as the clockwork 'cosmic spheres' planetarium and the gyroscope compass."

DEVELOPER COMMENTARY

GOLD SAUCER

"As there were a lot of mini-games in the title, I set the question of, 'What would an amusement park in this world be like?' and made sure everyone had fun when designing this area."

☐ JUNON

A port town that is also a military base, Junon is attacked later on by Sapphire Weapon, where the giant Junon cannon ceremoniously takes it down.

☐ THE NORTHERN CRATER

This is where Jenova landed about 2,000 years before the start of the story – a creepy, expansive crater where the climax of the game takes place.

☐ NIBELHEIM

As more observant players will know, after Nibelheim was burnt down by Sephiroth, the entire town was rebuilt by Shinra and the citizens replaced with its employees in a cover-up.

☐ COSTA DEL SOL

An utterly bizarre, Spanish-style holiday town with a relaxed atmosphere, players could later buy an overpriced house in this pleasantly different part of the world map.

☐ GONGAGA

This sad little town is the location of an exploded Mako reactor, with the citizens mourning their lost. Like a sister town of Nibelheim, in a strange way.

☐ WUTAI

A more culturally differentiated locale to everywhere else, Wutai is the sole town on the far western continent, and marks the only location where the heroes team up with the Turks.

☐ COREL

Barret's hometown-turned-post-Shinra-wreck, this is where you can catch the lift to the far more jolly Gold Saucer. There's a ruddy superb chase sequence here later in the game, too.

☐ ROCKET TOWN

Built around a launchpad, this is where one of the more interesting characters, foul-mouthed pilot Cid Highwind, hails from. It's a cheerful moment when they finally get the rocket into space.



» Aeris is the most innocent character in the story, and remains massively popular with fans.

Instead, the team had to spend more time worrying about the individual locations themselves, which were significantly more imaginative than their cartridge-based forebears. "It was actually a lot harder and took much more work realising the fully rendered backdrops for the towns and dungeons, as nothing like these had ever been done before at the time. Having said this, the world map in *FFVII* did play a very important role in the game. After the first part, which is spent in the oppressive and cramped environment of Midgar, the feeling of liberation and freedom at the moment when you step out onto the world map is one of the game's most memorable highlights." That's completely true, and this was a stone's throw from making it into our list of favourite moments. *FFVII* progressively puts more power in the player's hands through the way they interact with the world.

Random battles would remain part of the series, but as directed by the SIGGRAPH presentation, the actual look of them marked an exciting leap between generations. "We had decided on the idea of battles in 3D, with the camera panning and zooming around the action, from before beginning development on *FFVII*. In 1995, we created a prototype game based on doing the battles from *FFVI* in 3D and showcased it at the SIGGRAPH convention that year. This test game was made with an eye to perfecting the idea for the battles in *FFVII*."

Aided by the straightforward yet endlessly customisable Materia-based ability system, as well as visually extravagant Limit Break attacks, the combat in *Final Fantasy VII* would never become a chore. This title also saw the best work of composer Nobuo Uematsu, building on his incredible music in *FFVI* with a series of stunning and highly memorable themes and leitmotifs. Any poignant, dark or pleasant instance is helped along enormously by his work, and he made an easy collaborator for Square. "We basically just showed Mr Uematsu the character designs and the scenario, and had him familiarise with the overall themes and images of the game before letting him loose. There were no specific detailed requests, and he was allowed to create the score comparatively freely," says Kitase.

"It took a lot of work realising the rendered backdrops, as nothing like them had been done before"



CONSTANTIN JUPP

Assistant producer, Media Molecule

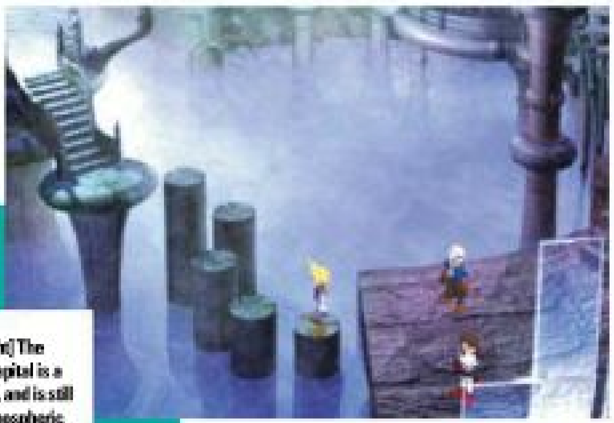
"*Final Fantasy VII* made me realise that games were so much more than just running or shooting or fighting. Far from mindless entertainment, they could actually stir emotion within the player. It's the game that inspired me to join the games industry and help create those experiences for others."

While HD technology and high-capacity storage media has let Square Enix realise the most elaborate of visions with *Final Fantasy*, there is something pure about the seventh game. It's such a well-rounded experience that it's obviously the product of a developer at a peak of creativity. Being the first *Final Fantasy* released in Europe, and armed with a slightly misleading marketing campaign that focused on FMVs over gameplay, it turned a historically marginalised genre into an international phenomenon.

That's why there's always talk of a remake. Yet gamers clamouring for this must surely realise the potential for disappointment – *Final Fantasy VII* was a product of the CD-ROM era, and everything was built on that foundation. To try to replicate that in today's HD landscape would be a fun curio, sure, but we're almost certain that it wouldn't surpass the original.

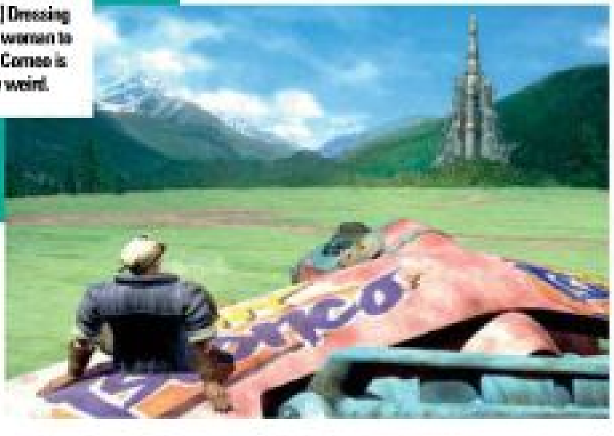
Still, the constant talk of revisiting the game is a testament to gamers' attachment to this world, to these characters, and to the themes of identity, life and death that no other entry in the series has matched. It is a masterpiece, born in the midst of Square enjoying the technological revolution laid before it, and justifiably becoming synonymous with the PlayStation platform. For the company, the project was a risk that paid off supremely, but more profoundly for *FFVII*'s receptive audience, it showed them that videogames could offer a journey beyond that of any other medium.





» [Top right] The Forgotten Capital is a bizarre locale, and is still the most atmospheric part of this world.
» [Bottom left] Dressing Cloud up as a woman to impress Don Corneo is still bloody weird.





Special thanks to Roxana Etemad for her huge amount of help with this feature.













The Mini Making Of FINAL FANTASY XIII-2

Yoshinori Kitase discusses Final Fantasy XIII-2, the sequel to the most controversial Final Fantasy entry yet

With 20 hours spent on a linear path and no hub areas to explore, *Final Fantasy XIII* was perhaps the first of the numbered games to show that the series wasn't invulnerable to criticism and heated fan response. Indeed, with the growing prominence of Western RPGs, and even being slammed by BioWare, Square Enix felt it had to address those aspects that not everyone adored.

"After the original title went on sale, we received a lot of feedback from around the world and have endeavoured to address the points raised as far as we can," Kitase says. "In *XIII-2*, exploration elements play an important role in the field and story sections."

In *Final Fantasy XIII-2*, the rebellious heroine of *FFXIII*, Lightning, has disappeared to another realm, while her sister, Serah Farron, lives on without her as the world comes under threat. Though the combat system remains pretty much identical – players can now recruit monsters to aid in battle, though – the addition of QTEs and non-linear hub levels are designed to answer all those folks who decried *FFXIII*.

It's an extremely quick turnaround for a *Final Fantasy* game, given that it'll be released under two years since *FFXIII*. *XIII-2*, remarkably, will have been announced and released while spin-off title *Versus XIII*, announced in 2006, is still nowhere near completion. "The original *FFXIII* was the first title we ever did in HD, and so there were many challenges that we had to face head-on," Kitase says. "However, for the sequel we have now built up the required know-how and could make a much more accurate assessment of the working hours required for each aspect of the project, meaning that the creation process runs much more efficiently."

The mistake with Square Enix's last direct videogame sequel in the series, 2003's *Final Fantasy X-2*, was that it drastically switched the tone from the original. Kitase says that won't be a concern this time:



"Unlike with *X* and *X-2*, for *XIII-2* we are pretty much maintaining the same style and atmosphere from the original. There are Chocobos and Moogles as characters, and this leads to a few more comical elements, but the overall feel of the game is very much dark and mysterious."

Joining Serah is Noel Kreiss, a hero who evokes memories of the PlayStation era of Nomura-designed male protagonists, such as Tidus from *Final Fantasy X*. "We did not particularly have Tidus or anyone in mind when designing Noel," says Kitase. "For these past few years we have been seeing a female lead character in the form of Lightning, and so it was decided that since it has been a while, we should go back to a more orthodox young male hero. In this regard, *XIII-2* may hark back to the older *Final Fantasy* titles for some people."

These changes illustrate *Final Fantasy*'s relationship with its fan base, with *XIII-2* restoring many of the traditional elements missing from its predecessor. As the franchise moves forward, it has to retain those qualities that make the series feel personal to gamers – and, if the past tells us anything, it's that no other series has the capacity to reinvent itself like this one does.

***Final Fantasy XIII-2* was released in February 2012 on the PS3 and Xbox 360.**



Signature Series

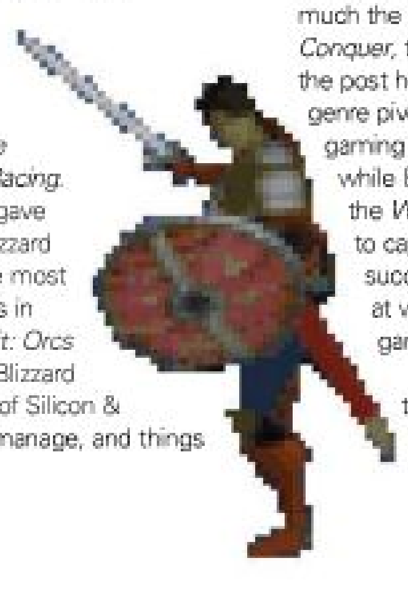
Diablo



In 1997, Blizzard plunged gamers into Hell for the first time with Diablo, an action RPG that would shape the genre for years to come. The franchise has established itself as the leading name in hack-and-slash loot-hunting action

THE BACKGROUND

Chances are you haven't heard of Silicon & Synapse, or rather you don't think you have. Indeed, the American developer, founded in 1991, wasn't exactly quick to make a name for itself – a string of C-list ports hardly set the world on fire, though the firm would later produce two original and fondly remembered titles in *The Lost Vikings* and *Rock N' Roll Racing*. But a change of name in 1994 gave the world its first glimpse of Blizzard Entertainment, today one of the most well-known and lucrative names in gaming. The release of *Warcraft: Orcs & Humans* that same year put Blizzard on the map in a way that none of Silicon & Synapse's releases could ever manage, and things snowballed from there.



The firm's first real sniff of commercial and critical success, *Warcraft* developed the real-time strategy gameplay seen in the likes of Westwood's exemplary *Dune II* while injecting a little more character and creativity into proceedings. Westwood would do much the same the following year with *Command & Conquer*, though it was Blizzard that was first past the post here, establishing some of the staples of a genre pivotal to both historical and modern PC gaming with a well-designed and original RTS. But while Blizzard's main team worked on growing the *Warcraft* brand with sequels and expansions to capitalise on the game's popularity and success, an unlikely secondary team was hard at work on one of the most important PC games of all time.

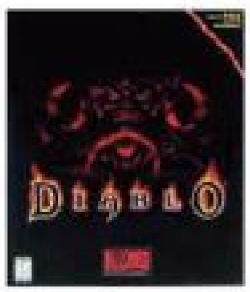
By 1996, Condor Games had released just three games – two American football titles and a *Justice League* tie-in. But despite this uninspiring back catalogue, Blizzard had



clearly spotted a level of potential in the studio that nobody else had, and the company quickly snapped up the small Californian studio. Renamed Blizzard North, the team surprised the world with a hugely original action RPG that nobody saw coming, a game of class and quality that created and defined a genre in one fell swoop. That game was, of course, *Diablo*, a release that would do for the action RPG what *Warcraft* did for the RTS and would forever ensure that while nobody ever really heard of Silicon & Synapse or Condor Games, everybody would come to know Blizzard's name.

THE GAMES

Diablo (1996)



Originally pitched as a turn-based evolution of roguelikes such as *Moria*, Blizzard's seminal ARPG changed massively between initial concept and finished article. Set in a dark fantasy world amid a war between Heaven and Hell, *Diablo* was the game that first proved that Blizzard had a level of imagination on a par with the programming ability already demonstrated with *Warcraft*.

And while the game itself evolved some way from its initial roguelike design, some aspects still carry the hallmarks of *Rogue* and its simplistic RPG imitators. *Diablo* offers a single 16-floor dungeon that consists of randomly generated levels – a setup common in roguelikes – and the simplicity of the combat is yet another sign of the game wearing its inspirations proudly. Furthermore, enhanced items must be appraised before their special abilities can be learned and made use of, only here such items cannot be equipped at all before being appraised, whereas most roguelikes tend to let you try on anything you like, often slapping you with curses and undesirable effects for your curiosity.

But where roguelikes generally hide behind simple presentation to facilitate a greater level of freedom, Blizzard was able to blend a gothic art style with a similar isometric viewpoint to those seen in popular games like *X-COM* to deliver an experience like no other. Every trip beneath the surface proved unique, hallways branching and rooms appearing differently on each play, with even the monsters that lurk within and the quests on offer changing dynamically. It was incredibly rare to see a role-playing game offer such potential for multiple plays and repeat visits to areas, which is just one of the reasons why players were so quick to take to *Diablo*.

The trio of character classes is another; three role-playing staples, each offering a totally different experience. It might not sound like much – and on paper, it isn't – but coupled with *Diablo*'s inspired mechanics and randomised elements, it made for a game worth playing three times or more. Combining the personal levelling process of a traditional RPG with a torrent of increasingly impressive gear courtesy of the frequent loot drops, each class could be easily tailored to either play to strengths or cover weaknesses, and this is something that really came into its own once you started to play around with the game's multiplayer component.

EXPERT OPINIONS

Jay Wilson, lead designer on Diablo III, discusses how the franchise has evolved since its 1997 debut

Was the series' heritage a deciding factor in retaining an isometric viewpoint for the new game?

Jay Wilson: That was one of the reasons. You could make a first- or third-person *Diablo* game no problem – the universe would support it and there are a lot of advantages to a game like that. When we looked at the industry, we saw plenty of games like that, but we didn't see any games like *Diablo II*. So we just felt like it was more interesting to stick with the isometric view and to stick with that kind of gameplay – it just isn't explored enough. At Blizzard, we're all about gameplay. All of our choices are based on what will make a game play better, what's going to make for more interesting and different gameplay to what we see somewhere else. It's funny that to make a second sequel to a game, we're actually exploring gameplay that an industry as a whole is ignoring. It's not often you can say that you're making a second sequel but still being really innovative. But we do feel that, compared to the rest of the industry, it's a more interesting choice than a lot of people are making.

How much cross-pollination is there among Blizzard's titles?

JW: I think a lot of the time, people forget all the things that *World Of Warcraft* took from *Diablo II*. The talent tree from *WOW* is an adaptation of the *Diablo II* one. The quest icons that appear over people's heads, those are from *Diablo II*. Tons of skills are cross-pollinated between all the Blizzard titles. Any time you have something as popular as *World Of Warcraft*, you're going to have a backlash from people who just don't care for that style of game. I think the core worry that people have is not whether there's a skill or a particular piece of art that looks like *World Of Warcraft* – they're worried that the game that they love is going to turn into something new. And that, I don't think they should be worried about. We're definitely making another *Diablo*. Certainly we're influenced by games like *WOW*, but we try to be influenced in such a way that we'll take something because it's better, not because it's different or because we think that suddenly it'll make the game more successful because *WOW* is so successful. *Diablo II* was the bestselling Blizzard game of all time until very recently, so it did just fine. We're certainly not worried that if we don't stick to the *Diablo* formula we'll suddenly not have a success.

Do you expect a backlash from die-hard fans every time you announce a new feature?

JW: It's kind of a no-win situation. We look at the wizard and, to me, she's quite different to the sorceress because there are all kinds of skills on her that we could never put on the sorceress. The sorceress is an elementalist, so if it's not lightning, fire or ice, it doesn't really work on her. But the wizard is more a kind of straight, old-school, pen-and-paper RPG mage – she can conjure physical objects out of thin air, she can stop time, she can create illusions. None of these things really fit with the [sorceress] so, for us, the two are really different. I think maybe people were hoping for something completely out of left field, but I think if we were to do that, we'd disappoint all the people that want a wizard/mage/sorceress. So what we tried to do in those cases was come up with different takes on those classes.



» [PC] *Diablo II* remains phenomenally popular, only leaving the US PC top ten as late as 2010.

Signature SERIES

> **"While nobody ever really heard of Silicon & Synapse or Condor Games, everybody would come to know Blizzard's name"**

Also appeared on...

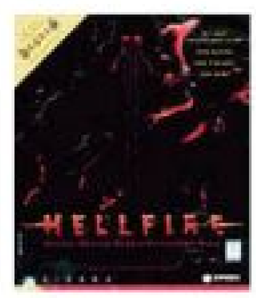


THE ORIGINAL *DIABLO* was ported to the PlayStation a year after the PC release. A generally solid conversion, the PSone edition switched from a mouse interface to offer direct control over the character with a controller, the first and only time in the series that this has been the case. While it lacked the online multiplayer component, this version did get a local multiplayer option to make up for it, as well as several other design tweaks to tailor the game to a console audience. Like so many complex games, though, *Diablo* would really take a bite out of the console's available storage space – saved games would occupy ten of an official Memory Card's 15 blocks.

Battle.net functionality was one of the final things to be added to *Diablo* before release, a last-minute brainwave that would allow players to meet in lobbies, party up and head out on adventures together. Frail sorcerers needn't fear getting swarmed with a mighty warrior or two on the front lines sucking up all the pain, and with support for up to four players either on a local network or over the internet, this proved to be one of *Diablo*'s most appealing features. It also allowed the game to set itself apart from most similar examples of co-operative questing by allowing players to damage one another – it might not seem wise to burn health potions fighting among yourselves, but common sense gave way to pure pride and entertainment, fellow warriors turning on one another in the heat of battle to settle petty disputes, with flashy displays of violence also a perfect way to show off your rarest and most powerful gear.

It wasn't all good news, though. Battle.net's late addition to the package meant that it wasn't quite as secure and balanced as it could have been, allowing cheaters who had altered stats and equipment to play with people doing things by the book, the scoundrels often using their ill-gotten power to screw over other players. This aside, Blizzard had clearly stumbled across something wonderful with *Diablo*, though it was far too early to be resting on laurels...

Diablo: Hellfire (1997)



The huge popularity of *Diablo* on its debut led to the inevitable release of an expansion later that year in the form of *Hellfire*. Oddly, the add-on was not developed by Blizzard but by Synergistic Software for Sierra, leading to the content it includes and the additional narrative embellishments widely being written off as non-canon. It was hardly the most feature-filled of content packs either way – fans wanted more than a couple of new self-contained areas and a handful of extra unique items, though the expansion was probably worth it for the extra character class it provided in the form of the monk.

Whereas the three initial classes each clearly focused on a single stat – strength for the warrior, magic for the sorcerer and dexterity for the rogue – the monk was a combination of all three archetypes and a malleable class that could be built in a number of equally potent ways. It seems as though he wasn't originally meant to be the only new addition to the game's cast of adventurers either, as fiddling around with some of the config files allowed access to unfinished classes like the bard and the barbarian, as well as unlocking a few quests that never made it into the final product.

Diablo II (2000)



Building, as it did so well, on all of the original game's successes and shortcomings, *Diablo II* is rightly revered as one of the finest examples of its genre ever made. Blizzard took everything on board, complaints about the original's length acknowledged with a far chunkier campaign, a whole new selection of more interesting classes, and a much deeper loot pool, bringing it all together to create a timeless classic.

Picking up where the first game left off, with the original's heroes corrupted by the influence of the Lord of Terror himself, *Diablo II* quickly established a whole new set of ground rules. Gone was the single random dungeon, replaced instead with an overworld that led to myriad procedurally generated caves and catacombs, all teeming with nasties to kill and goodies to claim. With such a broadened scope, *Diablo II* felt far more like an epic adventure than its forerunner, and it's for this reason that Blizzard has been actively supporting the game and its loyal player base until only very recently. Few games can boast a lifespan of over a decade and few deserve such dedication, though *Diablo II* can count itself among their number.

This time around, the multiplayer and Battle.net integration were at the heart of the game's design

DEVIL'S THIRD

IT'S BEEN A long time coming, but the mythical third *Diablo* game is now very much a reality, and after so many years of rumours of console versions and radical changes to the formula, it's reassuring to see just how true *Diablo III* stays to its roots. It makes the bold step of maintaining an isometric viewpoint, for one thing – the ultimate no-no in a market where processing power is everything – but replaces the pre-rendered characters with polygonal ones for the first time. Despite some moaning from fans about the art style and palette, the final game is beautiful to behold and not far removed from the grim, dark feel of its predecessors. And the gameplay? Suffice to say there are loads more things to slay and more loot than you will ever know what to do with. So yeah, it's *Diablo* all right. It's just a shame that it didn't ship with the PVP elements, though Blizzard has promised that this side of the game will be ready to go shortly...





SERIES HIGHLIGHTS

SECRET COW LEVEL



■ STARTING LIFE AS a bizarre rumour about one of the original's oddly placed bovine NPCs, the Secret Cow Level became a reality in *Diablo II*. Those cattle put up quite a fight…

PVP



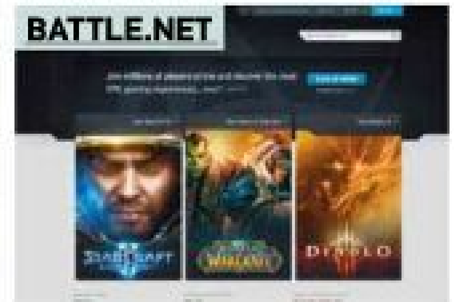
■ SETTLING INTO A skilled party was all well and good, but when the chest-puffing began, *Diablo* let players settle their disputes physically. Violence never solved anything… except a fight.

HARDCORE MODE



■ THINK YOU'RE ALL that? Hardcore mode begs to differ. The slightest lapse in concentration can lead to the loss of hundreds of hours' worth of work. Oh, and be careful who you party up with.

BATTLE.NET



■ BEFORE CONSOLE-BASED online services developed gated communities for players, Battle.net was the best way to organise online gaming sessions with friends and strangers alike.

THE HORADRIC CUBE



■ WHAT'S BETTER THAN an almost endless supply of loot? Why, an item that combines all your unwanted treasures into all-new gear, of course. The possibilities are practically endless.

BIG BOSS MAN



■ BOTH GAMES BUILD towards battles against Diablo, the Lord of Terror himself. You better hope your gear and skills are in check if you don't want to be dragged straight to Hell.

ALL THAT LOOT



■ WE DREAD TO think how many things we've slaughtered over the years and how many priceless trinkets we've hawked or just thrown away. Clue: it's a lot.

BLIZZARD'S CONTINUED SUPPORT



■ FEW DEVELOPERS KNOW how to maintain a loyal player base better than Blizzard. Its commitment to adding patches and balance tweaks for so long after release is truly commendable.

brief rather than being an afterthought, the enhanced selection of character classes and the existence of abilities that improved when used in a multiplayer environment proof that Blizzard really wanted to build on this interesting aspect of the original. Battle.net's lobbies allowed this to be taken a step further, parties able to recruit appropriate characters in order to fill gaps in their ranks or gain useful party-wide buffs, as is now the norm in MMORPGs.

With the level cap basically doubled from 50 to 99 and a trio of difficulty settings through which to advance your characters, *Diablo II* also made far more of a point of the replayability afforded by its randomised elements and regular loot drops. Skills could be developed further, stats grown to previously impossible highs, and character builds expanded in far more interesting directions than was possible with the original's vanilla classes. Those looking for the ultimate challenge could even choose to brave Hardcore mode, where all items and character progress are lost for good on death – one of the most punishing and upsetting examples of permadeath in gaming history.

Diablo II proved even more successful than its predecessor, and as the community grew around it, so too did the number of ways in which the game could be modified. Mods available today range from complete content overhauls that try to re-create the original game or tell brand new stories, to packs designed to evolve all of *Diablo II*'s best elements further still, upping the level cap into the thousands and exponentially growing the amount of possible loot to ensure that the game pretty much lasts forever.

Many have tried to improve on Blizzard's phenomenal achievement, but few have even come close, this life-devouring and ocean-deep game as fresh and playable today as it ever was. Its status as an all-time classic is assured, even as Blizzard readies the next chapter, and that there are still millions of *Diablo II* devotees pouring hours into the search for the ultimate loot drop is testament to the game's awe-inspiring quality. Will the launch of *Diablo III* eat into the numbers of the *Diablo II* hardcore? Almost certainly. But they'll be back. After all, for many loot-hungry gamers, this is where it all began.

Diablo II: Lord Of Destruction (2001)



Being developed by Blizzard, unlike *Diablo: Hellfire, Lord Of Destruction* was as much a content update for *Diablo II* as it was an expansion for it. It offered an additional fifth chapter to the storyline as well as a pair of new character classes, but its best work was in the improvements it made to the main game. A wealth of new loot was added, including class-specific gear for the first time in the series, as well as a host of new ways to customise and improve existing gear such as the addition of Runewords, powerful enchantments that could be added to suitable equipment by socketing particular rune stones in the right order.

Further patches and updates would continue to grow the game with additional content, including the addition of insanely powerful post-game bosses to keep advanced players busy, and balancing tweaks that would improve the experience for everyone. Blizzard's dedication to the cause has been incredible, patching the game as recently as October 2011 in a sign of the studio's desire to continue to give back to the community that shot it to power in the first place.



» [PC] The *Diablo* series' mouse-driven interface is proof that accessibility and depth are not mutually exclusive.

1983: A Spaceman's Odyssey – The History Of

JETMAN

Jetpac launched Ultimate Play The Game into the very stratosphere of Spectrum gaming, where it remained for the entire duration of its existence. In this feature we remember the memorable adventures of Jetman, and ask those with a connection to the character to share with you the impact he had on them

JETPAC

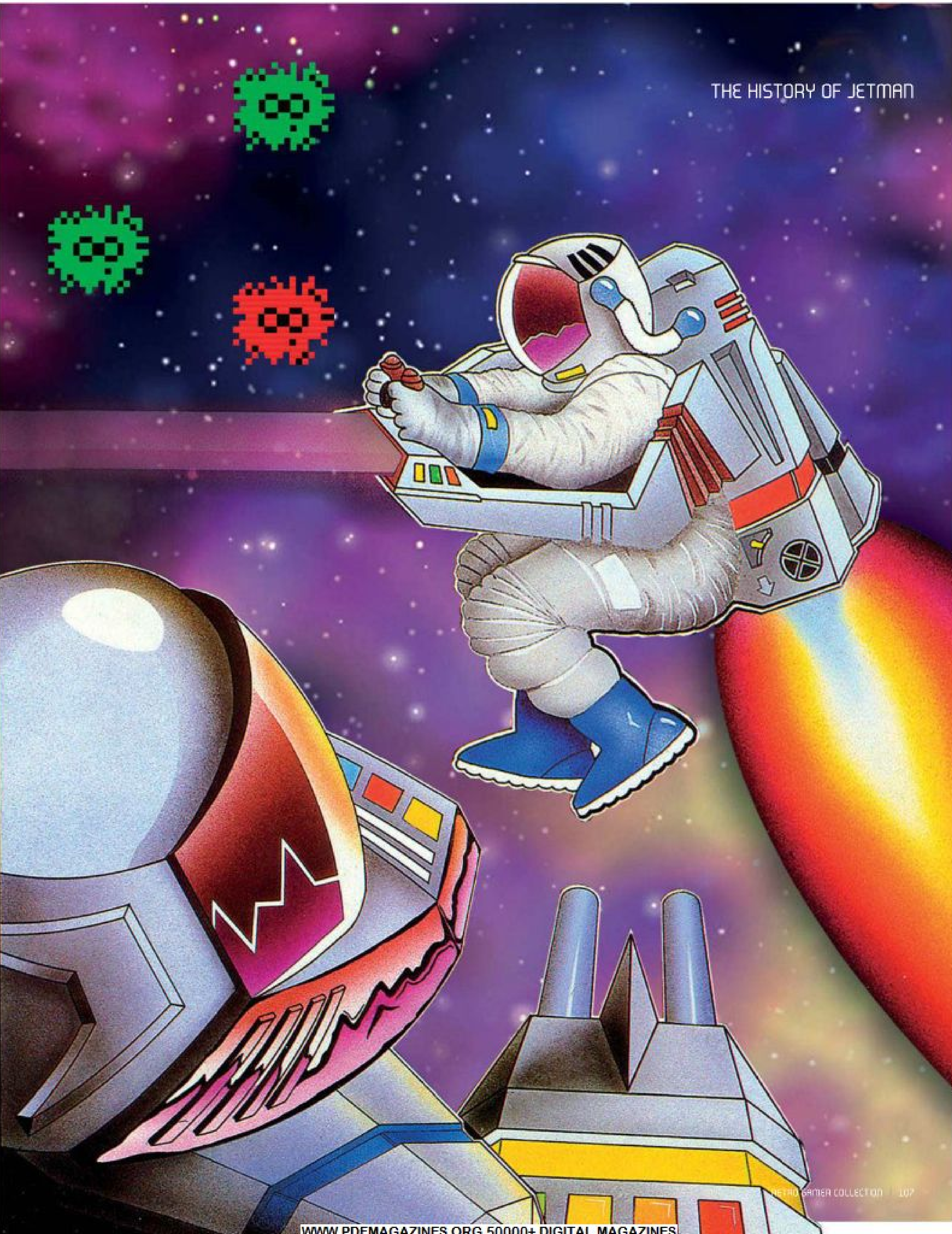


Though the landscape of gaming has forever changed and is very unlikely to ever revert back to how it was, for a long time the games industry was led and dominated by the coin-op industry. Thus, a sizeable gap in technology during the Eighties – separating the innards of arcades and 8-bit home computers – wouldn't deter many developers from transferring popular arcade hits for the home, or stop people from buying them.

Though *Jetpac* never set a toe inside an arcade, for many its appeal and brilliance largely came from the fact that it looked and played liked an arcade game. Its visuals were big, bright, and well detailed, its animation slick and smooth, even the laser weapon fired by its hero conjured up memories of blasting away aliens in *Defender*. And to top it all off, the gameplay was simple to grasp, addictive and above all, bloody challenging. We also hypothesise that *Jetpac*'s space setting came about because at the time the black cosmos was dominating arcade screens. *Jetpac*'s many arcade characteristics come as real no surprise; its authors, the legendary Stamper Brothers, started their careers producing arcade conversion kits, and even the odd arcade game, through their company Ashby Computers & Graphics Ltd.

The Stampers of course would eventually turn their backs (for a time at least) on the arcade market to apply their talents to the burgeoning British home computer scene, establishing Ultimate Play The Game as a label with which they would release their home computer software under. Released in 1983, *Jetpac* became the title that kicked off the brothers' new venture and was an impressive and hugely successful debut. Selling over 300,000 copies and netting the company over one million pounds in revenue, it immediately signalled Ultimate Play The Game as a software house to watch, and set the Stampers on their way to becoming household names (well, in households that played videogames, at least).

For those unfamiliar with the game, *Jetpac* saw players assume the role of a treasure-hunting spaceman called Jetman, whose mission it was, as chief test pilot





[ZX Spectrum] Released in 1983, Jetpac proved a wondrous showcase of what a ZX Spectrum was capable of.

for the 'Acme Interstellar Transport Company', to collect and assemble the various parts of dismantled space shuttle kits (in what was possibly a neat homage to the early ZX range of computers) which have been delivered to various planets in the solar system. Once constructed, Jetman had to top-up the ship with enough fuel to achieve lift off and then fly off to his next destination. However, it was mission fraught with both danger and reward as the planets he visited were full of treasures, but also hostile aliens that didn't take too kindly to intruders. Lucky for Jetman, then, that his employer equipped him a handy laser to blast the intergalactic meanies away as he went about his mission. Once airborne, our intrepid looting spaceman would then touchdown on more dangerous pieces of alien terrain to continue his treasure hunt, refuel, and then occasionally assemble a new ship.

Garnering impressive reviews, *Jetpac* would leave a profound effect on a number of Spectrum owners and programmers on its release. Among them Rare senior software engineer Brendan Gunn, who told us that both *Jetpac* and *Lunar Jetman* greatly raised his interest in Ultimate, and ultimately led to a real excitement about getting to work at Rare a few years later.

"*Jetpac* was my favourite game for a long time, and it remains my favourite Ultimate title. I was fascinated by the use of gravity to make the controls interesting; obviously this was central to setting the difficulty of the game. This has undoubtedly been a big influence on my work, as I've always enjoyed using various kinds of 'physics' to enhance the play experience."

Someone else who was duly impressed by the game was Ste Pickford. At the time Ste obviously had no idea that several years later he would be working alongside the Stampers to produce a sequel, but remembers vividly the first time he saw *Jetpac* in action.

"If the theme of Jetpac was to construct, then the theme for the sequel was to destroy"

"My brother John had a ZX Spectrum, which he used to write his first commercially released game – an adventure game called *Ghost Town*, released by Virgin Games. He earned £500 from this, and the first thing he did with the money was buy a 14" colour portable TV, which probably cost about £250 back then. Previously we only had a 10" or 12" black-and-white TV, which he'd written *Ghost Town* on. The second thing he bought was a copy of *Jetpac*. So *Jetpac* was the first game I saw in colour on John's Spectrum, and the first Spectrum game I actually played in colour, and consequently I have a great deal of affection for the game. The thing the stood out to me the most was the laser firing effect. 'That's just like *Defender*,' I thought!"

Someone else who felt *Jetpac* shared similarities with *Defender* was Archer MacLean, who shares with us his first impressions of the game. "My mate up the road had a Spectrum and I first saw both *Jetpac* and *Lunar Jetman* on it. Initially, I remember thinking in 1983 that *Jetpac* was yet another *Defender* clone with the platform game mechanic from *Joust* chucked in for good measure. But it was impressive at the time because the programmers had pushed the limited hardware more than most and it was actually quite playable.

Archer would of course later release his own popular jet-pack-based shooter with his Atari 800 smash *Dropzone* the following year. Curious then as to whether his jet-pack-wearing hero was inspired at all by the Stampers' spaceman in any way, we asked him the question.

"*Dropzone* was pretty much written in 1981/2 on an Atari 800 after extensive playing of *Stargate*, *Defender* and *Robotron* in the arcades. After a break to go to university, I revisited it in 1984 and the main character wearing a

Trailer Trail

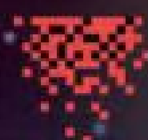
It's not uncommon for classic games to breed outlandish wild geese chases for fans. Sometimes they're intentional red herrings conjured up by mischievous programmers, other times they're originated by fans and then simply snowball from there. The latter was exactly what happened in the case of the famous red fish found in *Lunar Jetman*. For a long time many fans believed that the trailer seen pulled by the Hyperglide Moon Rover in the game's loading screen was obtainable. Weight was then given to the theory when *CRASH* printed a reader submitted picture of a screenshot of the game that seemed to show an image of the rover pulling the mythical trailer behind it, causing many readers to embark on a fruitless mission to find it. Of course it was later revealed that the image was a fake, knocked up by a witty practical joker. Keeping the pretence going, though, during an interview with *CRASH* the Stampers were asked about the trailer but didn't confirm either way whether or not it existed. Not that we're trying to reopen the hunt or anything.



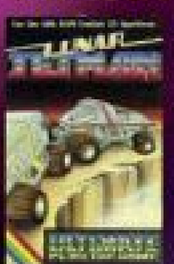


jet-pack was inspired by the fact that I saw a 'Rocket Man' fly into the stadium of the 1984 Olympics in LA, so I replaced my animated spaceship with a jet-pack bloke instead – complete with animated legs swinging about as he moved."





LUNAR JETMAN



If the theme of *Jetpac* was to collect and construct, then the theme of the sequel, released later that year, was to destroy. Following the events of the first game, Jetman crashes on yet another hostile alien planet after his ship – which he spent so bloody long constructing – starts to disintegrate in space. But Jetman's spot of bad luck becomes Earth's good fortune as he learns its inhabitants are plotting a revenge attack on his home planet in a bid to secure some valuable minerals for themselves. The new mission standing before our hapless hero is to destroy a series of alien missile salvos before they launch an attack on Earth.

To save Earth, Jetman must explore the surface of the planet, picking up bombs and ferrying the fragile payloads to various alien bases to destroy them. Jetman finds a Hyperglide Moon Rover on the planet's surface that he can use to drive the bombs to their target destinations without getting hurt by the flying alien meanies outside, effectively making him invulnerable to attack. However, this brought its own issue: the planet's ground is deformable, and the rover, despite having massive beefy tyres, could only travel over perfectly flat ground. Therefore, any potholes on the planets surface required bridging by Jetman, and this would mean him repeatedly hopping in and out of the Rover to plug the holes. Along the way Jetman could also find various equipment to aid him on his mission; this included a handy cannon that could be fitted to the Rover vehicle to blast the colourful alien hordes, and even a handy pair of teleporters that could be used as a way to get around the planet's surface quicker.

If Jetman failed to destroy his target in an allotted time then two missiles would be launched from the alien base – one targeted at earth and the other at the Rover vehicle. If this happens, though, it was possible for Jetman to intercept and destroy the missiles by blasting them with his laser, although with each subsequent level reached the amount of laser fire required to destroy them increased.

With scrolling levels, a drivable vehicle, our hero now having to continually top-up his fuel to stay airborne, and players given two different methods to complete their missions – either carrying the bomb manually or fiddling around with the Rover to transport it under the protection of cover – *Lunar Jetman* was definitely a far more intricate game than its predecessor.







[ZX Spectrum] *Lunar Jetman* was one of a small number of titles compatible with the Currah Microspeech add-on, giving it some creepy speech effects.



"I'm ashamed to admit I only ever had an illegal copy of *Lunar Jetman*, and as a result I never gave it sufficient time to really get into it," remembers Rare's Brendan Gunn. "I loved the idea of taking the core mechanic of *Jetpac* and expanding it with the addition of things like the moon buggy, the bridging kits and the teleporter. Sadly, I found it just too hard, and I didn't play it enough to master it. I played it a couple of months ago and really enjoyed it. I just wish I'd given it more attention back in the day. Certainly these two games greatly raised my interest in Ultimate, and that in turn led to a real excitement about getting to work at Rare a few years later."

Despite the increase in challenge the sequel posed, most fans still regarded *Lunar Jetman* as an enhancement over the original. Among its fans, *CRASH* editor Roger Kean. "I thought *Jetpac* amazing at the time, the first game that had large sprites which actually resembled the objects they were supposed to be. And then *Lunar Jetman* went even further, with better sprites and a deeper gameplay. And of course there was the mythical trailer hidden somewhere which became both the fantasy of tipsters and the reality of budding Speccy artists, all of which *CRASH* published to further drive game players to distraction in their search for it."

Loony Jetman

Beginning in issue six and lasting up to issue 93, John Richardson's humorous *Loony Jetman* comic strip quickly became the thing many readers of *CRASH* flicked too first. In fact, it became so popular that Newsfield offices would be flooded with letters from disgruntled readers whenever the strip failed to appear one month. If you missed our making-of *Starquake* in issue 89, then you might be unaware that the much-loved comic can also be thanked for bringing about the birth of its hero. When creating BLOB for *Starquake*, programmer Stephen Crow was inspired by a peripheral big-eyed droid character that occasionally appeared in the comic's panels. An important and inspiring piece of Spectrum history, *CRASH* editor Roger Kean reveals how the iconic strip came to be.

"First off, I couldn't remember how many *Lunar Jetman* (Loony) strips John Richardson did and was astonished to find out. He kicked off in issue six (July 84) and kept it up all the way to issue 93 (Oct 91), only missing issues 24, 29, 32 and 50, although issue 57 was a placeholder, which he made up for in the following one with two pages. Issue 59 went into colour and then from issue 64 to 93, they were all in colour.

"In those early days of pre-press technology, we photographed the *Jetman* art boards on a PMT (photo-mechanical-tone) process camera to film for printing. It tended to be a longer-than-usual process because the camera operator (Matthew Uffindell) spent the time reading the page, and the gales of laughter from within the camera room indicated what was being dealt with.

"From the very first issue, Tim and Chris Stamper liked *CRASH*, evidenced by the detailed interview/visit we did, the only magazine to have the privilege of being allowed inside Ultimate Play The Game. I can't remember whose idea it was to turn *Jetman* into a comic strip, especially a daft one, theirs or ours, but it showed their confidence in their character and in us to turn Jetman The Hero into Jetman The Loony. And I no longer remember who introduced us to John Richardson, but it was inspired. The strip rapidly became a must and we received complaints by the tonne-load when those few issues went missing a strip."





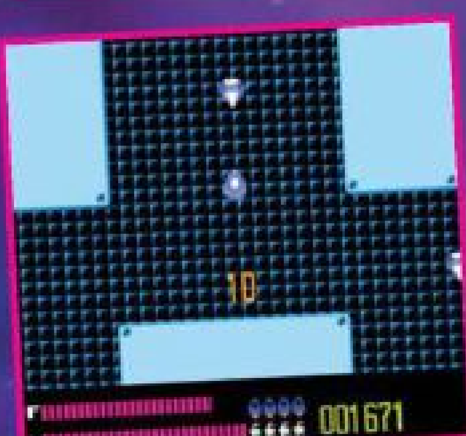
Jetpac Refuelled





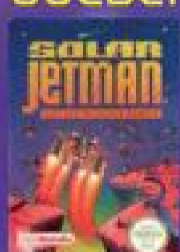
Of course it would be remiss of us to write a history of the *Jetman* series without touching on *Jetpac Refuelled*: Rare's splendid 2007 HD remake of the 1983 Spectrum classic. It was a fantastic early XBLA title, and marked the company's first ever release for the service. It featured the original Spectrum port as well a brand new, polished, beefed up revamp boasting a fresh lick of HD paint. It also featured larger playing fields, the option to upgrade Jetman's laser weapon, and was complemented with all new co-op play and a smattering of competitive multiplayer modes for fans to get stuck into – suffice to say the latter was a respectful update that breathed new life into the Spectrum classic. Those who wish to find out more should be sure to check out issue 39 of **Retro Gamer**, which featured an in-depth making-of the game.







SOLAR JETMAN: HUNT FOR THE GOLDEN WARSHIP



Following very big things with Ultimate, the Stamper Brothers once again changed the focus of their business: this time waving goodbye the British home computer market, and with it the Ultimate name (selling it to US Gold, but then later buying back the rights to their IP a few years later), to make an early break into the burgeoning home console market with a new company that they called Rare. When Rare became one of the first Western developers to be granted a license by Nintendo to produce games for the Nintendo Entertainment System, it once again proved to be another deft business manoeuvre by the brothers. This lucrative relationship marking another purple patch as Rare produced a huge number of NES games, beginning with the into-the-screen ski-themed racer *Slalom*.

Ramping up production as popularity of the NES rocketed and demand grew, Rare began employing more staff, and occasionally entrusted production of projects to a third-party developer.

Founded by brothers Ste and John Pickford, Zippo Games' first project for Rare was *Wizards & Warriors* sequel, *Ironsword*. The success and popularity its sequel garnered led to the studio getting more work from the Leicestershire-based Rare, although Ste admits at the time he wasn't overjoyed to be working on another sequel.

"We wanted to make our own games," Ste remembers. "We'd already designed and developed *Ironsword*, and didn't really want to do any more of that kind of work. But, if we were going to do a sequel to anything, it may have well been something we liked, and I think we all liked both the original *Jetpac*, and the *Looney Jetman* comic strip."

Ironically enough given Ste's admission, *Solar Jetman* actually began life as an original Zippo production. "The project actually started as on original game called *Iota*, which we came up with at our studio Zippo Games. It was conceived by the programmer Steve Hughes, and it was partly inspired by *Oids* which was big on the Atari ST at the time, and of course *Thrust* – but with some new ideas and twists. Although it was our original game, we were being funded by Rare, and at some point about halfway through the game they just told us out-of-the blue that it was going to be *Solar Jetman*. No discussion or anything."

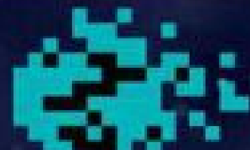
With Zippo Games being entrusted with one of the Stamper's most revered series, pressure was naturally on to deliver something that would live up to the previous two games in the series. Surprisingly, Zippo would receive little input from Rare with regard to how the game would look and play, the Stampers clearly confident in their abilities.

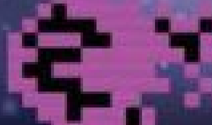
"I enjoyed working with the Stampers," Ste told us. "They were very sharp, very focused, and very clear about what they wanted, and every meeting we had would start about discussing the game but end up with hours spent talking about videogames in general and the state of the industry. They were also quite ruthless, though, and never paid us very well or gave us much in the way of royalties!"

With talk returning to the game, though, we ask Ste to explain where, apart from the obvious, he drew inspiration for *Solar Jetman*?

"My own personal inspiration was *Scuba Dive* by Durrell on the Spectrum," he explained. "I spent hours and hours playing that game, and loved the feeling you got from slowly exploring deeper and deeper caves, and I always wanted to recapture that feeling in the levels I built. So although it's not a completely original game, I think we took inspiration from enough different sources – and added enough of our own ideas – to make a game that was reasonably fresh and interesting."

And how large was the team that worked on the game and how long did the project take to complete? "I think it took quite a while – longer than it should have





anyway! Perhaps around a year? It started off as a two-man team, Steve the programmer (and game designer) and Lyndon the artist (and level designer), which was typical of the way we made games at the time. We had a bit of a re-jig about 60 per cent of the way through the game, when John and I got involved and we did a sort of redesign, threw away most of the existing levels and rearranged the structure of the game, keeping most of the code and about half of the graphics assets, then I spent a few months working with Lyndon on new graphics and level design. So two people for 60 per cent of the development then three or four for the rest. The music was done by the guy at Rare."

The Spectrum *Jetman* titles each offered a unique approach to fetch-for-survival gameplay, and *Solar Jetman* was no different. Set across twelve planets, plus one secret planet for players to find, it saw Jetman trying to find and assemble the parts that made up the titular Golden Warship. And also in fine *Jetman* tradition, it was no walk in the park.

The eight-way scrolling levels were much larger in scale and players began each stage steering an unwieldy pod that moved subject to inertia. The aim of the game was to explore the dangerous cavernous planets for fuel, Golden War parts and upgrades for their ship and then drop them into the base. Each planet featured different enemies and its own gravitational properties, and if the pod was destroyed, control would then fall to Jetman, who was more agile but notably weaker.

"The Spectrum Jetman titles each offered a unique approach to fetch-for-survival gameplay"

"I think that was my idea, although my memory may be playing tricks on me. That was a key idea which made the game work, and was added fairly late in the big redesign. It was essential a rip-off of the idea in *Mario* where growing big from a mushroom is effectively an extra life, as you can survive one hit. The game always had the shield, but adding the extra stage of losing your ship but staying alive as a vulnerable Jetman really improved the game, and gave a great feeling of 'just about' surviving a difficult battle if you managed to fly away safely."

A maddening but logical mechanic, items could only be transported by Jetman when he was piloting a pod, pulled to the target destination by a tow cable. Therefore, whenever his ship was destroyed, players would be required to return to base and pick up another ship to continue their mission. Ste was concerned, though, that the to-and-fro might start to feel like a chore for the player, and so during the redesign process he and the team thought up ways to soften the challenge and make the game more enjoyable.

"There was a danger of massive levels being long and boring, and it being tedious to bring items back a long way to the ship, and unsatisfying difficult to fight baddies while also controlling your ship which was being pulled by a weight which you had to protect. It could (and at times during development, did) add up to a clever but annoying game mechanic. A lot of the work we did on the big redesign half way through was to make the game fun by tweaking the baddie AI, adding shortcut/teleports, and generally making it more enjoyable and feel less like work."

Sister ports of *Solar Jetman* were planned for the Amiga and C64, developed by Software Creations, and at one stage a ZX Spectrum version was in the works. None of these conversions sadly saw release, although the Spectrum port was previewed in issue 86 of *CRASH*. In the article, programmer Tony Williams talked briefly about the struggles of porting a NES game to the Spectrum and explained how it was going to be a 128K game only, it even showed off a couple of early screenshots. Sadly, Ste told us he was never involved or saw any of the ports and thus was unfortunately was unable to shed any new light on their mysterious disappearance.



[PC] Fans should take the time check out Andy Noble's 2002 freeware remake/revamp of *Lunar Jetman*. It's good and free.



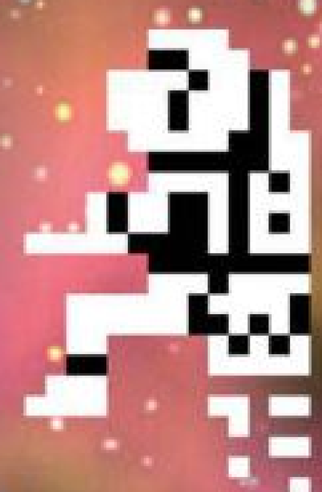
[BBC Micro] Both *Jetpac* and *Lunar Jetman* saw release for the BBC Micro, *Jetpac* was also ported to the VIC-20.



[NES] *Solar Jetman* meshes together elements of *Jetpac* and *Lunar Jetman*. The result is a cracking NES game that can be picked up for next to nothing these days.

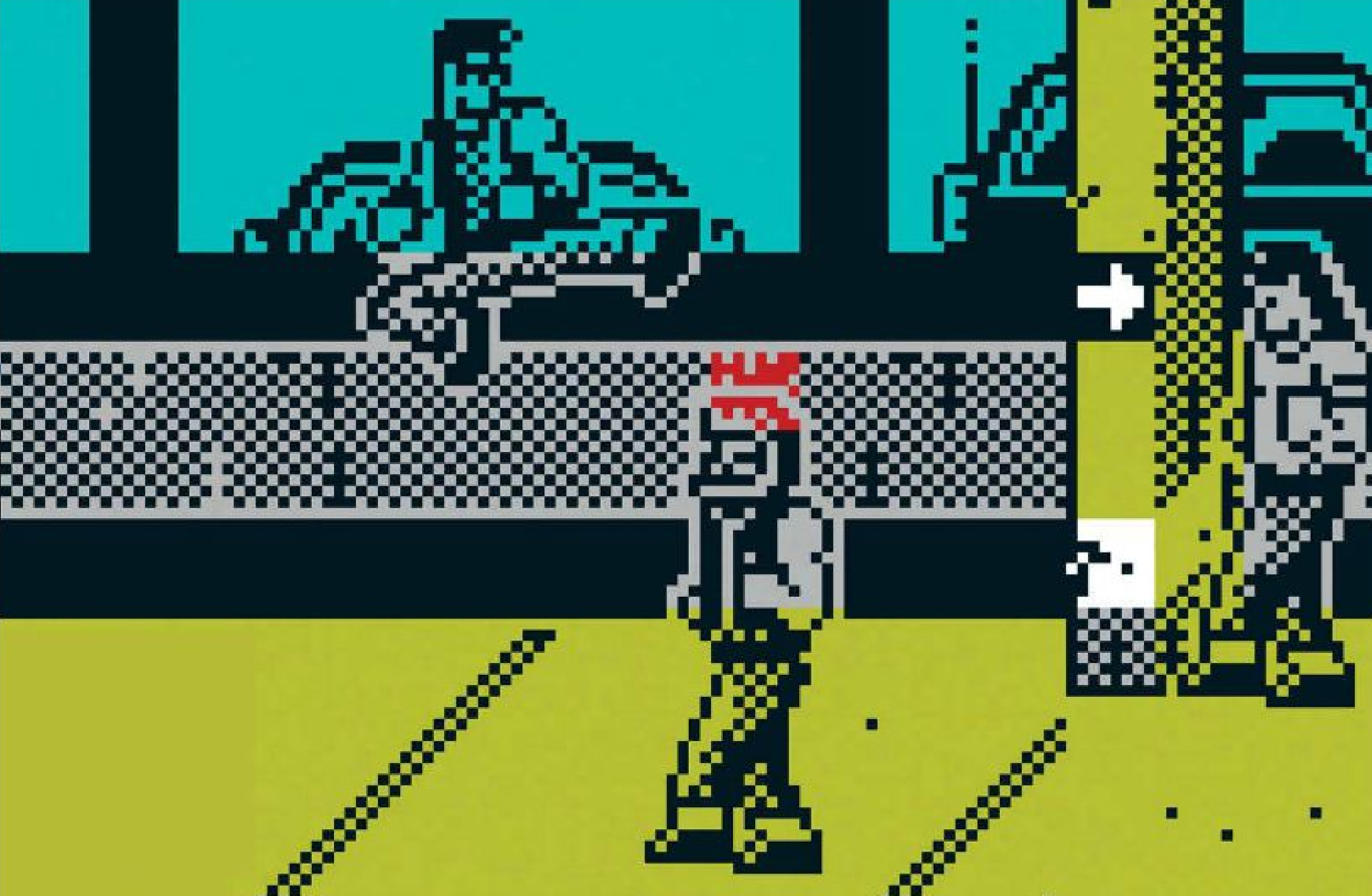


Special thanks to Adrian Mitchell for his excellent scan





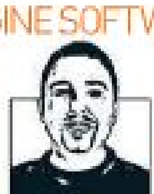

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Target: Renegade

HOW IMAGINE SOFTWARE BEAT TECHNOS AT ITS OWN GAME

» RETROREVIVAL



» ZX SPECTRUM
» IMAGINE SOFTWARE
» 1988

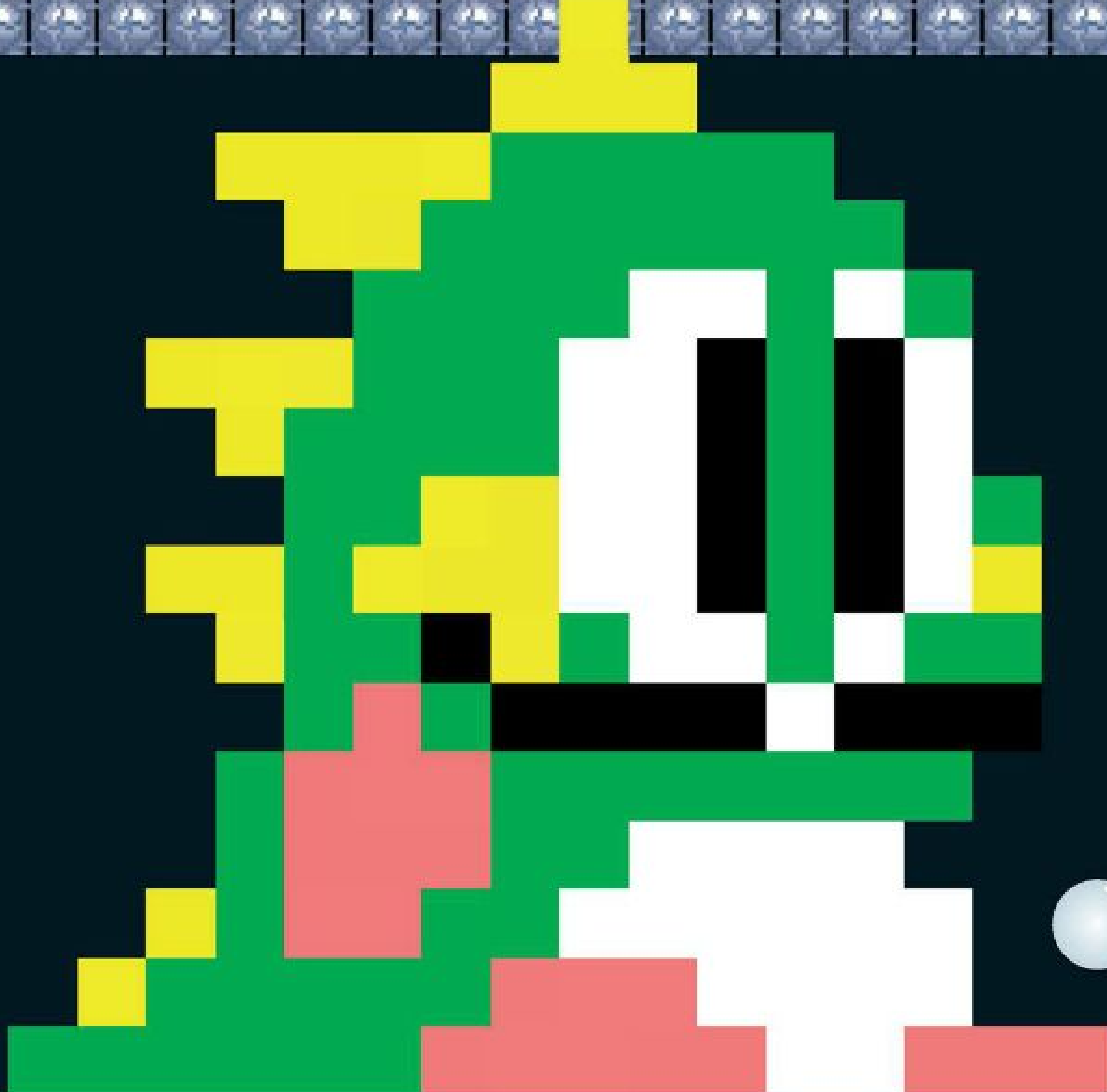
Imagine's conversion of *Renegade* proved extremely popular on home formats when it was ported in 1987. But what do you do when you want to follow up the success of the original arcade game, but don't have an actual sequel to port? Imagine did the only thing it could: it approached Technos and gained permission to make its own sequels.

Renegade III: The Final Chapter was an abomination and is best forgotten, but *Target: Renegade*, Imagine's first sequel, was a truly wonderful piece of work that still holds up brilliantly today. Everything about *Target: Renegade* was bigger, bolder and quite simply better than Imagine's already superb port of *Renegade*. By far the most significant improvement was the inclusion of a second player, which added tremendously to the on- screen proceedings and gave *Target: Renegade* an exciting dynamic that wasn't found in the original game. Playing with a mate was tremendous fun, especially as you could 'accidentally' hit them, and it effortlessly replicated the same arcade thrills that were popular in games like *Double Dragon*.

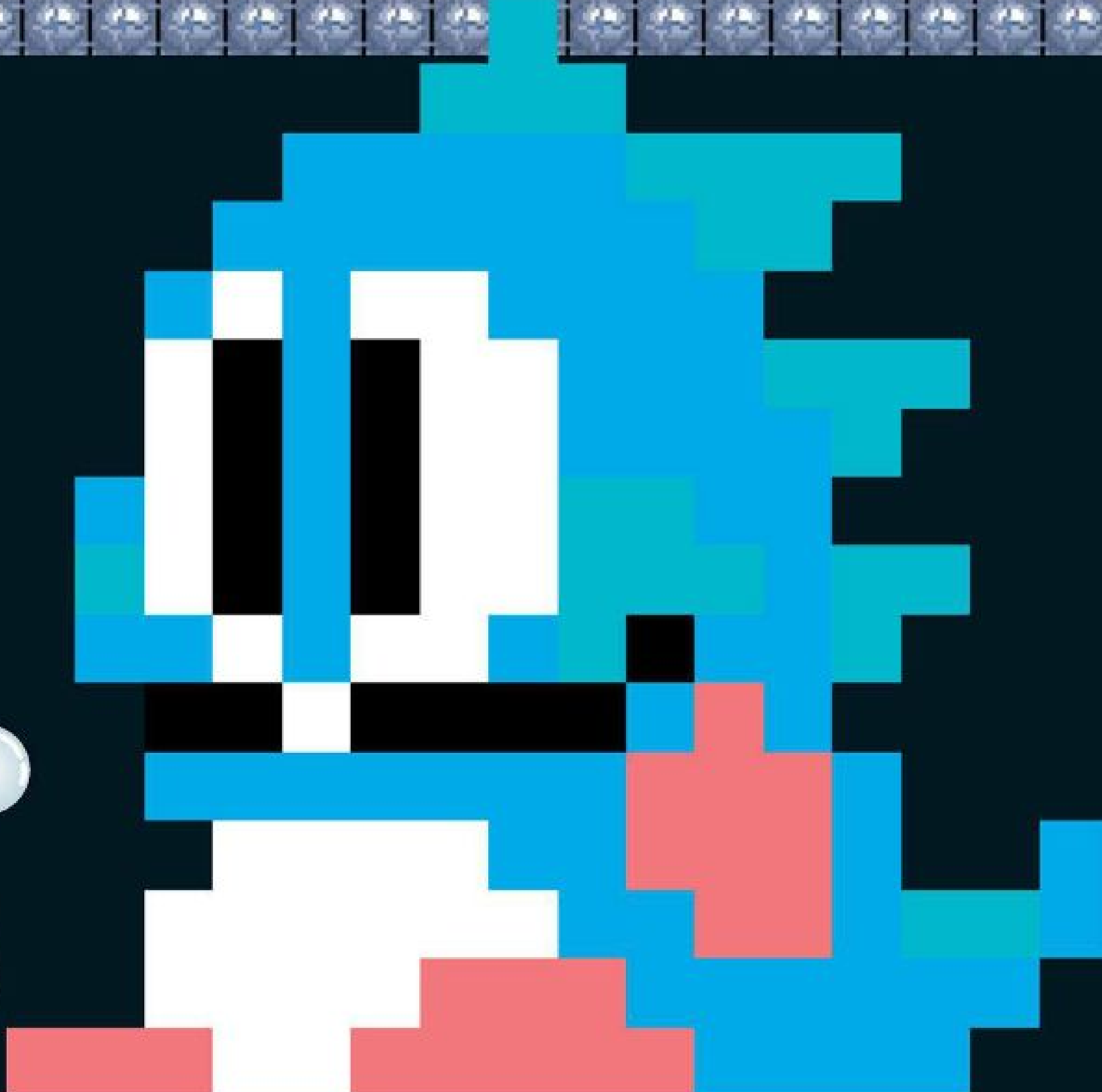
Weapons also played a part in *Target: Renegade*'s appeal, with your character now able to use knives, hammers and even pool cues in order to dish out cold street justice to the many thugs he encountered. While weapons featured in *Renegade*, you couldn't actually use them, giving computer owners another reason to prefer *Target: Renegade* over the original arcade game.

Lastly, the game itself was simply a hell of a lot of fun to play, and, while it featured cartoon British stereotypes over its five multiload levels, the humour and detail packed into each stage meant that you'd always push forward to see what came next.

All the 8-bit versions of *Target: Renegade* were good fun, but the C64 version didn't fare as well, mainly because it lacked the second player. It's hard to choose between the Amstrad and Spectrum versions, however, as they're essentially the same game. We obviously prefer the colour and chunky visuals of the CPC game, but there's no denying that the Spectrum outing is just as good. So much, in fact, that it was never bettered on the system by any other scrolling fighter. *



BUBBLE MEMORIES



BUBBLE BOBBLE HAS LOST NONE OF ITS FIZZ OVER THE YEARS. IT'S A CLASSIC THAT INTRODUCED MANY STAPLES TO THE PLATFORM GENRE, AND AS IT HEADS TOWARDS ITS 30TH ANNIVERSARY, WE CELEBRATE BY BLOWING THE SERIES APART

"Now, it is beginning of a fantastic story!! Let's make a journey to the cave of monsters! Good luck!" In 1986, those magical and ever so slightly nonsensical words preceded one of the most charming arcade games of the Eighties.

That game was *Bubble Bobble*, and its whimsical premise saw two sickeningly cute miniature brontosauruses named Bub and Bob (which are actually two boys called Bubblun and Bobblun who get transformed by a dead beluga whale – don't ask) battle their way through 100 rooms of pure run-and-jump brilliance to rescue their beloved girlfriends, Patty and Betty.

To succeed in their quest, Bub and Bob had to clean each room of enemies, and did this by amiably encasing them inside bubbles. Once captured inside these soapy round cages, the enemies posed no danger – well at least for a time; they eventually broke free and started flashing red with rage – and the boys could burst the bubbles using their horns or fins to destroy whatever was trapped inside.

Bubble Bobble was conceived by Japanese game designer Fukio Mitsuji (aka MJT). One of Taito's leading creative minds in the early Eighties, Mitsuji designed and worked on many of the company's most creative arcade titles, including *Land Sea Air Squad*, *Syvalion*, and *Volfied*.

Unfortunately Mitsuji was rarely interviewed, and sadly died in December 2008, reportedly of a sudden heart attack. Therefore there is very little background information about the man and his games. However, in 2005, in a rare interview to promote the release of *Taito Legends*, Mitsuji offered some insightful answers about *Bubble Bobble* and the reaction it garnered.

When asked where the idea for *Bubble Bobble*'s concept originated, Mitsuji explained that it was his intention to create a game that was both "thrilling and exhilarating", adding: "Bubbles are an intuitive visual cue to convey a fun element, and popping them all at once triggers thrills and exhilaration."

He then went on to highlight the importance of *Bubble Bobble*'s iconic multiplayer mode, and how the game's look and fun nature helped it to appeal to a wide audience.

"You had to play cooperatively in order to reach the true ending," he explained. "So compared to other titles, cooperative gameplay is a more crucial part. As a result, many players challenged the game by teaming up with other players. Also, couples were seen playing the game together."

"In order to gain wide audiences, creators must come up with a fresh idea and easy-to-grasp design"

Finally, Mitsuji gave an interesting response to a question about how difficulty levels and design in games had changed over the years. It said much about his design philosophy.

"Since many players' skills are already tuned to a specific game design, newer games tend to become harder," he answered. "So, in order to gain wider audiences, the creators must come up with a fresh idea and easy-to-grasp game design. In other words, simple yet deep gameplay elements. Game creators must come up with them. And I would like to see more game creators focus on fresh game designs."

An evangelist of original game design, it was that passion for innovation that saw Mitsuji take *Bubble Bobble* into a bold new direction with *Rainbow Islands*, and would later see him set-up his own design school – MJT Game Designer's School – to teach the next generation of game designers those important values he felt so passionately about.

Given Mitsuji was both highly creative and a staunch supporter of inventive game design, its comes as little surprise that *Bubble Bobble*'s simplicity belied a title that was incredibly deep when you scratched beneath the surface.

Bubble Bobble was a revolutionary title that introduced many platform game staples. It featured an imaginative and fun attack mechanic, simultaneous two-player mode (the first game to ever offer such a mode), a dizzying array of power-ups and secrets, references to past Taito games (although at the time there wasn't a great many to choose from over the iconic *Space Invaders*, a little-known racing game from Mitsuji called *Super Dead Heat*, and *Bubble Bobble*'s spiritual ancestor *Chack'n Pop*), three different endings, and a wonderful difficult curve and secret drop system.

How the latter two aspects were achieved – the difficulty curve and secret system – was largely due to *Bubble Bobble*'s technical makeup. Internal counters inside the coin-op ensured nothing occurred randomly in the game, with the odd exception of the fireball bubble. For example, causing Bub and Bob to run a lot would entice the speed boost pick-up to appear, while the rapid bubble blow upgrade would show itself after the brothers had fired a set number of bubbles or jumped a set number of times. As a result, players soon discovered that they could make life easier for themselves by identifying the best hang-out spots in each room and manipulating the power-ups and secret item drops to their advantage.

That passion to be constantly innovating saw Mitsuji create an unusual sequel to *Bubble Bobble*. Rather than follow orders from the bigwigs above to create a sequel offering more of the same bubble-bursting action, Mitsuji strived to give its fans much more. With *Rainbow Islands* he created a sequel that at first glance seemed an entirely different beast, but which gradually revealed itself to be tonally similar to its predecessor.

Released a year after *Bubble Bobble*, *Rainbow Islands* (or, to give it its full title, *Rainbow Islands: The Story Of Bubble Bobble 2*) was a superb follow-up that improved on the original in every way.

Mitsuji made a number of fundamental changes to the original formula. Vertical-scrolling themed stages now replaced the single-screen arenas, and instead of clearing the screen of enemies Bub and Bob had to reach the top of each stage before a gradually rising water tide enshrouded them.

A new method for attacking enemies was also introduced, one that again doubled up as a means to help Bub and Bob get around. Rather than capturing enemies inside bubbles, Bubblun and Bobblun (reverted back to their normal selves at the end of *Bubble Bobble*) could now create rainbows to attack enemies, and also use them as makeshift bridges. Jumping on the colourful arcs would cause them to cascade down the screen, killing anything underneath, and this, in a similar way to killing large groups of

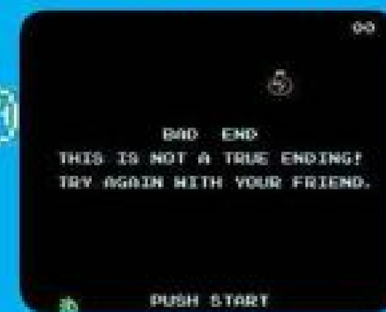
Bubble Bobble features a hard mode entitled Super mode. It's unlocked by inputting a code that is revealed when two players complete a 'normal' game. In Super mode enemy whereabouts are different and the rooms are in different colours.



» [Arcade] *Bubble Bobble* was designed to be played by two players cooperatively. Indeed, one of the most notable aspects of its design is that it cannot be properly completed playing alone (see right).

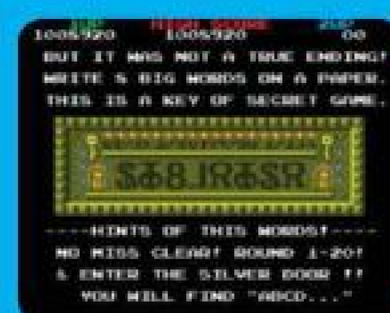


Bubble Bobble is notable for being one the earliest games to feature multiple endings. Here's a rundown of all three possible finales, and how to see them.



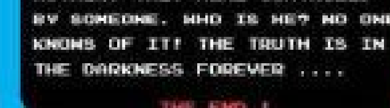
THE BAD ENDING

Complete *Bubble Bobble* solo and there is no happy reunion with the girls, no one gets transformed back to normal and the player is plonked back somewhere random in the game, usually between room 50 and 80.



THE GOOD ENDING

Complete it with a chum to see the 'good' ending. Both brothers change back and are reunited with their girlfriends, and a cryptic message flashes up. Jot down the code, enter the treasure room to decipher it and you'll unlock Super mode.



THE TRUE ENDING

Finishing Super mode in co-op unlocks the 'true' ending. The brothers turn back to boys, are reunited with their girlfriends and also break the spell that turned the boys' parents into Super Drunk.

enemies simultaneously in *Bubble Bobble*, was the key to unlocking special items and scoring big.

But *Rainbow Islands* also retained that hidden depth of its predecessor. Secret rooms, bonus items, nods to past games and alternate endings were once again present, taking everything players loved about the original but presenting it in an entirely different way.

Rainbow Islands became the last *Bubble Bobble* designed by Mitsuji, who eventually left Taito to work as a freelance designer. Taito was thus staring at a fork in the road as far as *Bubble Bobble* was concerned: would it continue to follow Mesuji's lead and push the franchise in bold new directions or play it safe and offer fans more of the same? Well, it sort of did both, creating a confusing lineage for the franchise in the process.

A direct sequel to *Rainbow Islands* came with the release of *Parasol Stars* in 1991. It's notable for being a Taito game that looked like an arcade game, sounded like an arcade game, played like an arcade game but was never released into arcades – it debuted on the PC Engine before later appearing on the Amiga, Atari ST, Game Boy and NES.

Though aesthetically it shared similarities with *Rainbow Islands*, *Parasol Stars'* gameplay closer resembled *Bubble Bobble*. Parallels include levels being single-screen arenas (with a small amount of scrolling on some stages), players completing a stage by clearing the screen of enemies, and bubbles making a return, appearing as four flavours of attack power-up.

Losing their ability to fire rainbows, the brothers were armed with parasols, a cheap gift given to them for saving the Rainbow Islands but a new weapon that proved incredibly versatile. The brollies could be used as shields, to pick up and lob enemies and power-ups, and to help the brothers float to the ground in *Mary Poppins* fashion. As the title implies, the parasols are the stars of the show, slotting nicely aside the bubbles and rainbows of the earlier games.

But *Parasol Stars* did take a number of aspects from *Rainbow Islands*. As well as the boys keeping their natural, God-given looks, the eight worlds were once again disparately themed, including Rainbow World, Machine World and, of course, the oddly obligatory Casino World. There were even two bonus hidden worlds too, unlocked by successfully completing secret tasks.

In 1993 Taito released *Bubble Bobble Part 2* on the NES, which introduced two new bubble dragons to the series, Robby and Cubby – descendents of Bubblun and Bobblun. The US manual for the game (which was never released in Europe) misstates that the heroes are the original Bub and Bob, but there are a few ways you can tell the two characters are more likely intended to be their descendents. The boxart is identical



» [Arcade] *Bubble Bobble* really hasn't aged a day. It's still incredibly cute and playable 25 years on.



» [Arcade] Collecting letters that spell 'EXTEND' awards you an extra life, leading to some frantic battles between players.



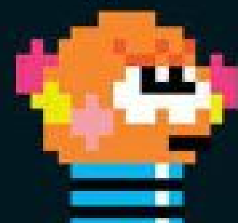
A number of *Bubble Bobble* bootlegs were released into amusement arcades, including the adult bootleg *Miss Bubble II*, which slotted images of semi-nude ladies into the backgrounds of stages. They should've named it *Boobie Boobie*.

BUBBLE BOBBLE BADDIES

A rundown of the cute harbingers of death facing off against Bub and Bob



ZEN-CHAN
The first enemy you face, these wind-up droids have a moderate walking speed, can jump, but have no projectile attack.



BANEBOU
This thing on a spring bounds around the stage erratically, which makes him a fairly difficult chap to evade.



MIGHTA
This ghostly foe moves in a similar way to Zen-Chan but can also roll boulders. Mighta debuted in *Chack'n Pop*.



MONSTA
This purple beluga whale moves diagonally and rebounds off walls. This enemy also debuted in *Chack'n Pop*.



PULPUL
Pulpuls move in the same manner as Monstas but their enhanced speed makes them more dangerous.



HIDGEON
These enemies behave similarly to Zen-Chans but are faster, cannot jump as high and can launch fireballs.



INVADER
These familiar-looking foes regimentally move from left to right while cascading down the screen firing lasers.



DRUNK
A dangerous foe with quick speed and agility, Drunk throws empty bottles of booze like they're boomerangs.



BARON VON BLUBBA
True villain Baron Von Blubba acts as an invincible time warden, appearing if players take too long to finish a stage.



SUPER DRUNK
The last boss is a super-sized version of Drunk. He jumps around the screen, lobbing empty liquor bottles.



RASCAL
Rascal only appears in the game's secret rounds as a Time Over monster – similar to Baron Von Blubba.

THE CONVERSIONS

It's a classic bubbling over with impressive home conversions



ZX SPECTRUM

This solid conversion by Mike Follin plays a very faithful game of *Bubble Bobble*. Sure it lacks a bit in the colour department, but the cheery, fun two-player gameplay is captured brilliantly. Our biggest gripe though: no music.

COMMODORE 64

Ste Ruddy did an impressive job for the C64 conversion, garnering a staggering 97% in *Crash* for his efforts. It's easy to see why critics were so enamoured with it. It's a top-notch conversion that ticks every box.



AMSTRAD CPC

A simple, single-screen game with Day-Glo graphics: the CPC could handle games like this in its sleep. Sadly, this port is the least impressive of the three foremost 8-bit micros, but it's still a decent enough conversion.





NES

All the console conversions of *Bubble Bobble* are excellent, and the NES version is a solid port. Developed by Taito, the great graphics are tarnished a little by occasional flickering, but it does feature a useful password system.



MASTER SYSTEM

One of the best ports of *Bubble Bobble* ever released, it contains all the 'Super' stages – giving it 200 in total – and new secrets, pick-ups and special items too. Its continue system also lets you auto-restart.

GAME GEAR

There is little separating this and the SMS version. The stages feel a little squished, and Bub and Bob's jump a little unwieldy, but it does offer a two-player link-up mode, making this the definitive handheld iteration.



GAME BOY

The odd GB version of *Bubble Bobble* isn't a port at all, but a single-player game with scrolling, rearranged stages. It also has a new story about finding 'moon water' to heal your sick brother. We're not fans.



WORST VERSION



ATARI ST

We get bored of writing it probably as much as you get tired of reading it, but there is little separating the ST and Amiga ports. In fact, rumour is the Amiga version was heavily based on an ST port. It's another solid effort.

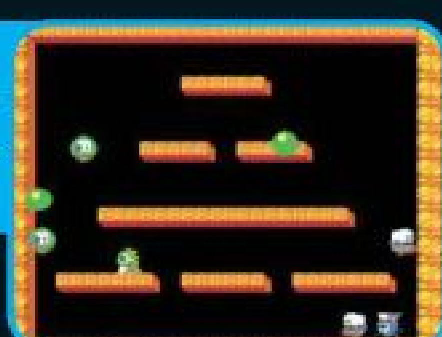


AMIGA

This version plays a very decent game of *Bubble Bobble*, looking and sounding great. Our biggest problem is that it is sadly missing many of the extra secret levels. Aside from that it's a solid conversion.

PC

The PC version is very similar to the Amiga and ST ports. It's looks fairly good and plays well enough, but it too is missing secrets. Also letting it down is the ghastly in-game music, which is incredibly tinny.



SHARP X6 00

A nigh-on arcade-perfect port with great graphics and sound, plus it gives you the option to tweak the amount of lives you have and the extend pattern, as well as continue from where you died. It doesn't get much better than this.



BEST VERSION

The US version of *Bubble Bobble* offers the option to play the game in Super mode straight off the bat.

Bubble Bobble is notable for being one of the first games to feature alternate endings.

Fukio Mitsuji's last game was the Game Gear puzzler *Magical Puzzle Popils*.

Q&A



We caught up with Ste Ruddy, to find out how he managed to create such a splendid version of *Bubble Bobble* for C64.

So Ste, how did you end up porting *Bubble Bobble* to C64?
I was working for Software Creations and we had a good working relationship with Firebird; the company had done a fair few titles with Firebird including Mike Follins' excellent Speccy version of *The Sentinel*. I'm not sure how it came about but Creations got the contract on the back of this relationship and I got the C64 job.

And did you have access to the coin-op at any point during its development?
Yep, Firebird sent us a shiny new *Bubble Bobble* cabinet when development started. I don't think any of us had seen the game in the arcades at that time, so we had to play the game an awful lot to figure out how it worked - obviously not much of a chore.

What were the most challenging aspects of working on the conversion?
On C64 the biggest challenge was getting the bubbles on-screen and fitting everything in memory. The bubbles were not suitable for the standard C64 method of reusing the eight hardware sprites in different parts of the screen due to the nature of the airflow patterns on each level. In the end, the bubbles were implemented as double buffered software sprites (which consumed more memory) to allow them to all congregate in one area of the screen. Towards the end of the project I started to run out of memory so some features did have to go, and the game ended up with end sequence music on a temporary boot screen and a bunch of sprite frames were removed. Fortunately all the levels stayed, though.

Are you pleased by how it turned out?
Oh, yes. Everything I knew about the coin-op made it into the C64 version and it played quite well considering the loss of the jump button.

***Bubble Bobble* is full of secrets, multiple endings and special areas. Were you told or made aware of these before working on the conversion?**
Unfortunately not. We implemented the observed behaviour of the coin-op but had no idea of the logic and depth behind the game. On the C64, the pickups that appear are weighted towards the order pickups appear in the arcade machine from a clean boot – I did see that this tended to be the same, but was affected by the way you play the game. Unfortunately, I couldn't figure out the logic so it's a random bias (which hopefully gives similar results). The secret screens were implemented but we had no idea of the messages or secret endings. The C64 did have the Super cheat in, though (a key combination on the boot screen) as I think someone saw an arcade cabinet set up running that way.



to the Game Boy title *Bubble Bobble Junior*; the brothers look chubbier (which can be put down to baby fat rather than binge eating) and, perhaps most notably, the bonus rounds oddly refer to the heroes as 'Junior'. It's a bit of a mess, but it's not uncommon for game manuals to make naming mistakes.

Anyway, the NES sequel repeats the story of the original by having the boys of the boys enter the Cave Of Monsters to rescue their girlfriends. It featured the classic *Bubble Bobble* gameplay of old but with take-turns multiplayer, wrap-around levels, and some new enemies, including boss fights. As we mentioned, it also introduced entertaining bonus rounds, one of which sees the brothers playing volleyball against their enemies in the game. Robby and Cubby also had the ability to self-inflate, enabling them to float into the air more easily to get to hard-to-reach areas. In past games they had been forced to rely on repeatedly bouncing off their own bubbles.

A Game Boy version called *Bubble Bobble Junior* was also released, and was completely different to its NES counterpart. It featured different stages, a new story and was single-player-only. Dropping Cubby, it saw Robby trying to rescue villagers from a new villain called 'King Great Skull' (where do they come up with these names?). Unfortunately, it's not a patch on the excellent NES version. It's lacking any kind of multiplayer and has fiddly scrolling arenas, which, after the dismal *Classic Bubble Bobble*, should have been totally outlawed as far as *Bubble Bobble* was concerned.

Following this rather confusing side-story, it was then *Bubble Bobble* returned us to the lives of Bub and Bob and its arcades roots. *Bubble Symphony* (aka *Bubble Bobble 2*) was released to celebrate the series turning ten years old, and was a four-player 'reimaging' of the original *Bubble Bobble* – thus cannily granting it immunity from having to shoehorn itself into the existing timeline. It was also a reboot that seemed to be targeted more towards kids. We say this because it introduced two new girl characters to the fold – friends of the boys (we're not sure what Patty and Betty would make of that) – and has a blurry pastel fairytale aesthetic to its new visuals and a mechanic whereby the kids could collect and combine musical notes. Basically it's about as edgy as a circle. What is interesting about *Symphony*, though, is that many of the levels seem to be based on those in the original, and some rooms offer branching routes through the game.

A sequel to *Symphony*, *Bubble Memories*, was released the following year and marked the final arcade release for the series. Once again Bub and Bob took centre-stage (if you've been taking note you'll have noticed they've appeared in all the arcade releases), in a sequel that was essentially a return to classic *Bubble Bobble* values but with new levels and a sneaky new charge attack that allowed Bub and Bob to create a bigger bubble to encase large and multiple enemies. Sadly, it's a disappointing coin-op swansong for the siblings, as it feels like a bit of a step backwards in terms of visuals and gameplay from *Symphony*, although it does have the best-named baddie in videogame history: Super Dark Great Dragon.

In recent years, the quality of the *Bubble Bobble* franchise, away from the *Puzzle Bobble* series, has been flagging a bit. Additionally, *Rainbow Islands* and *Bubble Bobble* seem to have disconnected and become their own franchises: while *Bubble Bobble* sequels have continued to arrive, Taito has released the somewhat disparate *Rainbow Islands Revolution* and WiiWare title *Rainbow Islands: Towering Adventure*.

"You had to play co-op to reach the true ending. Compared to other titles, co-op is more crucial"

The next two releases in the *Bubble Bobble* franchise were *Bubble Bobble Revolution* and *Bubble Bobble Evolution*, and both were disappointing. Released for the DS, *Revolution* contained a solid port of the original game as well as a now infamous 'New Age' game – which was so 'new age' it couldn't actually be finished. A bug that wasn't detected in the North American version before it shipped made it impossible to beat the 30th stage in the game due to a missing boss. Thus it

In 2006, Taito announced it had lost the original source code to the game following a reorganisation. To retrieve it, the developer had to disassemble the original game rom and various home computer ports.


» [NES] *Bubble Bobble Part 2* is a fantastic sequel. It's also bloody rare and expensive ($300-$400 for a boxed copy).

THE COMPLETE BUBBLE BOBBLE

WE DIDN'T HAVE SPACE TO INCLUDE THEM ALL IN THE MAIN FEATURE, SO HERE'S INFO ON EVERY MAJOR BUBBLE BOBBLE GAME EVER RELEASED



received a bit of a battering by fans and critics – and rightly so.

The next release, *Evolution*, bravely experimented with the core gameplay, but to forgettable effect. Carrying little resemblance to the classic *Bubble Bobble* structure, it saw players flit control between Bub and Bob. Its peculiar plot sees the pair split up and banished to two separate prison towers. To escape, the brothers have to flip switches and solve puzzles that will grant them access to an elevator to take them to the next level, where they then repeat the process. Oddly, the boys don't work together – the actions of one brother have no effect on the other's situation – and therefore the idea falls flat. Boss battles and snowballing power-ups are a nice touch, but ultimately it stands as less an evolution and more an entirely different game. Oh, and it doesn't even feature cooperative play.

A DS sequel to *Revolution* was released in 2007 called *Bubble Bobble: Double Shot*. Taking a strange, almost *Ikaruga*-ish approach to the traditional gameplay, it saw players switching control on the fly between three bubble dinosaurs – Bub, Bob and some random new guy named Bubu, who each fired different coloured bubbles – to vanquish enemies with a colour-specific weakness to the trio's bubble attacks. Though it was an original idea, in practice the control proved fiddly, and went against the wonderful simplicity of the original, so critical reception to it was lukewarm.

The two most recent *Bubble Bobble* games were digital releases, and offered decent remakes of the original game. The WiiWare release *Bubble Bobble Plus!* offered a spruced-up version of the original with a couple of new modes, including an arrange mode that supported up to four-player co-op. A virtually identical XBLA version was later released for the X360 the same year, adding map packs via DLC and given the suffix *Neo!* – we can only suspect likely due to some mysterious *Bubble Bobble* custom that stipulates all games must have a title that is confusing and/or misleading.

And so closes this look back at the *Bubble Bobble* series. An often puzzling series we hope we've helped to untangle, its history shows the difficulties standing before developers when trying to breathe new life into popular franchises. Nevertheless, Taito can be applauded for creating one of the longest-standing franchises in videogames and a recognised and lovable duo of heroes, and for taking us all on one fantastic journey.

“ Many players challenged the game by teaming up. Also, couples were seen playing together ”



4. Rainbow Islands Extra
Multi | 1988
A hardened version of *Rainbow Islands* that featured identical level structure but jumbled enemy placement.

8. Bubble Bobble Part 2 (aka Bubble Bobble Junior)
Game Boy | 1993
Single-player only, this shares little in common with the classic gameplay.





12. Classic Bubble Bobble
Game Boy Colour | 1999
Yet another poor GB effort that keeps the 'Moon Water' story from *Bubble Bobble Junior*.

16. Bubble Bobble Revolution
DS | 2005
A disappointing sequel featuring a decent port of the original and a broken update with levels similar to the Game Boy titles.





20. Bubble Bobble Double Shot
DS | 2009
Unsuccessful attempt to do something clever with the *BB* formula sees you swapping control between three dragons.

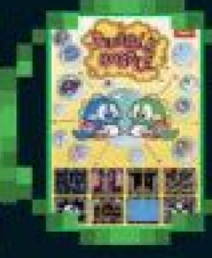


[Arcade] *Bubble Bobble*'s creator, Fukio Mitsuji, also worked on the titles *Land Sea Air Squad*, *Syvalion* and *Volfied*.

1. Chack'n Pop
Arcade | 1983
A spiritual ancestor of sorts, *Chack'n Pop* featured a number of enemy characters that would later reappear in *Bubble Bobble*.



2. Bubble Bobble/ Super Bubble Bobble
Arcade | 1986
Bubble Bobble became one of the most popular and iconic platform arcade games of the Eighties.



3. Rainbow Islands
Arcade | 1987
A superb sequel that took everything that was great about *Bubble Bobble* and then somehow made it even better. It's a true timeless classic.

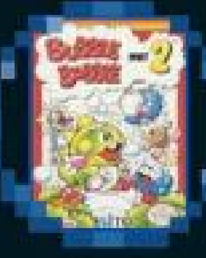




5. Bubble Bobble
Game Boy | 1991
A ropey single-player arcade conversion with horrible scrolling stages, but notable for introducing a new 'Moon Water' story.



6. Parasol Stars
Multi | 1991
A great sequel, it looks and plays like a perfect marriage of *Bubble Bobble* and *Rainbow Islands*. It also swaps rainbows for brollies.



7. Bubble Bobble Part 2
NES | 1993
An excellent sequel that introduced a new generation of heroes: descendants of Bub and Bob.

9. Bubble Bobble Symphony
Multi | 1994
Bub and Bob return in this anniversary reboot joined by two new faces. It supports four-player co-op play.



10. Bubble Memories
Arcade | 1995
This disappointing final arcade release appears to play things closer to the original – hence the 'memories' in the title, perhaps.



11. Bubble Bobble featuring enhanced Rainbow Islands
Multi | 1996
A port of *Bubble Bobble* with an enhanced *Rainbow Islands* that's barely mentioned on the box.





13. Rainbow Islands – Putty's Party
Wonder Swan | 2000
An odd *Rainbow Islands* novelty game featuring similar levels but making various pointless tweaks everywhere.



14. Rainbow Islands
Game Boy Colour | 2001
A strange version with horizontal scrolling (arghh!), which allows you to play the first six islands in any order.

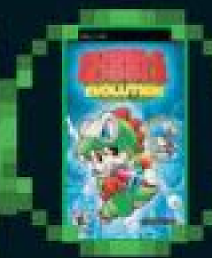


15. Bubble Bobble Old And New
Game Boy Colour | 2002
You get two versions: a straight port and one with enhanced visuals. Scrolling? You betcha.

17. Rainbow Islands Revolution
DS | 2005
Revolution takes *Rainbow Islands* gameplay but allows you to draw your own rainbows using the stylus. Not great.



18. Bubble Bobble Evolution
PSP | 2006
Strange sequel that introduces a pointless character swap mechanic and boring switch puzzles.



19. Rainbow Islands Evolution
PSP | 2007
Bub and Bob fight an evil record company with a robot assistant and fire rainbows using something called a 'hurdy-gurdy'.





21. Rainbow Islands: Towering Adventure
Wii (WiiWare) | 2009
Classic mechanics, but an unflattering Wii paintjob. The new levels flow well, but the action is broken up with boss fights.



22. Bubble Bobble Plus!
Wii (WiiWare) | 2009
A decent update with a nice selection of options, levels and modes – among them a four-player Arrange mode.



23. Bubble Bobble Neo!
Xbox 360 (XBLA) | 2009
Features redrawn visuals, and various options and modes similar to those in *Bubble Bobble Plus!*.

HOW TO WIN AND CHEAT AT BUBBLE BOBBLE



With a wealth of secrets and useful techniques waiting to be exploited, we thought we'd dedicate two pages to giving you the very best tips and advice. If you're struggling to see past level 20, the true ending is still evading your grasp, or Von Blubba is proving a real von bugger, gently place these two pages across your troubled brow… after reading them, of course!

CHEAT THE SYSTEM

If you play *Bubble Bobble* alone and die then it's game over. That's it. You're not given the option to pick up where you left off. No sir. However, there is a sly way to cheat the game into letting you continue – two, actually. The obvious method is to simply stock up on credits and hit the Player 2 button the second before you're about to snuff it. The other – far less faffier – method is to hold down the one player button when you die and not release it until Bub is resurrected. If you're worried about missing the window of opportunity then resting a pot plant/pint or large cooked chicken on the button has become a time-honoured tradition with fans.



HOW TO ACCESS SUPER MODE

If you're playing the US version you can access Super mode from the title screen. To unlock it in the original version though, *Bubble Bobble* has to be completed using both Bub and Bob. Doing this gives you a cryptic code that can be decoded by reaching the first of the three Treasure Rooms. If you can't be arsed with all that, simply input **Start – Jump – Bubble – Left – Right – Jump – Start – Right** at the title screen. And hey presto!



HOW TO KILL A VON BLUBBA

Though doing so costs someone a life, it is possible to kill a Von Blubba (aka Skel) when playing co-op with another player. If you both take too long to finish a level then two Skels will appear – one for each brother. If one brother is caught and killed, when they're put back into the game it is possible for them to smash into and kill their opponent's Skel while temporarily invincible.



TOP TECHNIQUES

Experienced players have discovered some useful bubble techniques to help them get around and eke out more secrets and points. Here are our favourites.

POWER-UP! MODE

To access unlimited run and rapid bubble blowing abilities simply input **Left – Jump – Left – 1P – Left – Fire – Left – 1P** at the title screen. A message in the bottom left corner of the screen will appear to tell you the cheat has been activated.



KISSING

This is the act of blowing a bubble when an enemy is a mere cat's whisker away. Though an incredibly risky strategy, as you have to time it just right, it will encase and pop an enemy in one quick move – thus giving the impression you've kissed it to death. This is a great technique for clearing screens full of rapid, erratic monsters.



THE TREASURE ROOMS EXPLAINED

There are three treasure rooms in *Bubble Bobble*, but you only need to enter the first to unlock the true ending. All are accessed by reaching their respective room without losing a life. Doing so opens up a door on the stage leading to a room full of jewels and a secret message made up of symbols that can be deciphered using an alphabet key.







ROOM 20

Displays the secret message: **'If you want to become the old figure, use the power of your friendship, and fight with me!'** This basically explains that for the boys to return back to their normal human selves they need to complete the game together.

ROOM 30

Displays the secret message: **'I enclose these magical medicine here, because those are my worst fears.'** It explains that the boys have to use a special power to defeat Super Drunk; lightning bolt icons enable the boys to blow lighting bubbles.

ROOM 40

Displays the secret message: **'You want to get back your love of truth you must help each other until the last.'** Just reiterates the point that to truly finish the game players have to work together to defeat Super Drunk. Yeah, we got it first time, thanks.

BUBBLE RIDING

Bubbles cannot hold the weight of Bub and Bob but can be used as a means to bump the brothers skyward. By holding down the jump button, it's possible to repeatedly bounce from a single bubble and potentially ride it all the way to the top.



BUBBLE CLIMBING

A slight adaption of the bubble-riding technique, climbing sees players basically blowing and jumping onto bubbles at the same time, to effectively create makeshift bubble scaffolding, which can be used to reach high areas more quickly.



FREE POINTS

Each bubble pop awards you ten points, so to earn some free points simply stand by a wall and blow bubbles against it. This trick can be used to manipulate the end score of a round. Finishing a room with a pair of like 100 and 10 digits (for instance: 657**55**0) will see the remaining bubbles left on-screen turn into 700-point bonus items.



THE SPECIALIST

We speak to the current Bubble Bobble high score champ, Olly Cotton…



Tell us a bit about your relationship with the *Bubble Bobble* coin-op…

I first played *Bubble Bobble* around 1988, I think. I grew up with a great arcade two minutes from my house which had it. I found that I was good enough to make my 20p last half an hour or more, and could get almost a day's worth of play for a quid. The arcade kept the *Bubble Bobble* cab right up until it closed, 12 or so years ago, and I tried to buy it from them but was too late sadly.

After watching *King Of Kong* a few years ago I thought I'd have a look and see what the official high score was. It turned out my old scores weren't far off the record so I looked for an arcade cabinet and found one locally without much trouble. However, once I started looking for the original PCB I discovered it was actually quite rare and expensive. After a few months, I finally tracked one down in the US for a good price and it arrived the day before my wedding last year, so it's easy to remember.

How long did it take you to reach your current high score of 6,060,730?

I started practicing properly in August last year, and figured out how to safely beat each of the levels without dying. After a few months I was able to loop the game and get very close to the record. I was visiting the Arcade Barn in Exeter last November and the guys there wanted to see all the levels done – it turned out to be my best game ever and I unexpectedly ended up beating the record. I knew then I could do it, and started to record every game I played. I finally managed to beat it on a quiet rainy afternoon in February.

Tom Gault's record had stood for several years. Why do you think it took someone so long to beat it?

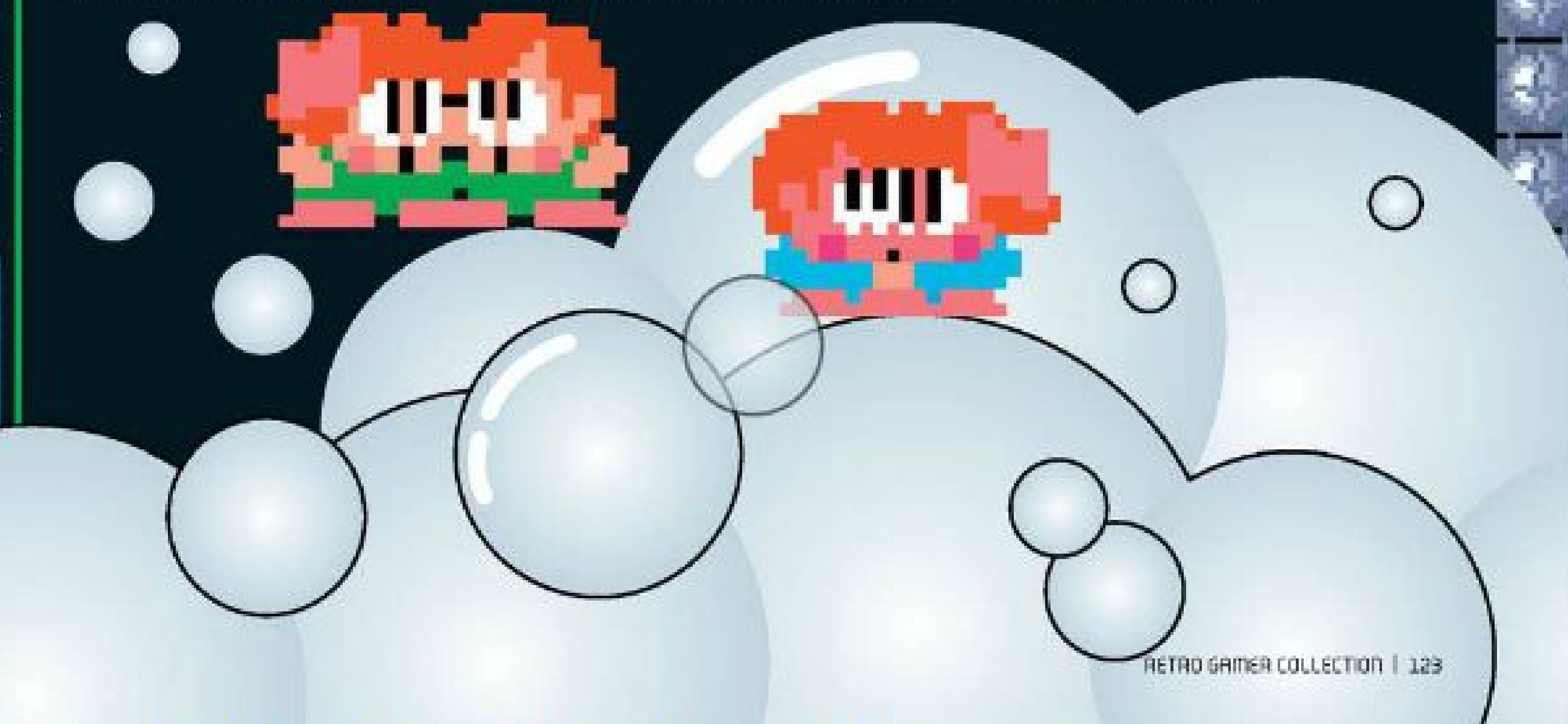
I found there is a kind of score 'cut-off' point where it's fairly easy to get the first three or four million but tough to go above that, as you are usually on the later levels where dying means losing all your power-ups where you really need them. I've only actually beaten that score twice, and never bettered my record. It can get very intense when you get that far in to the game, as the special items disappear almost immediately and the enemies come out of the bubbles quickly.

How and where did you register your high score?

I have a cab in my home office (much to my wife's disgust!) so could get in a game most days, which is where I set the record. Once I had the recording of the score I sent it off to Twin Galaxies and it was verified about a week later.

How good are you at the arcade sequels – *Rainbow Islands, Bubble Symphony,* and *Bubble Memories*?

I hadn't heard of *Symphony* or *Memories* until I started trying to find the *Bubble Bobble* PCB, so made sure to grab them when I saw the pair come up for sale. *Symphony* is a fantastic game, but I'm not actually very good at it as some of the mechanics have changed from the original game. *Rainbow Islands* was next to *Bubble Bobble* in my local arcade for a while, so I got pretty good at that one too. I can get to the end on a credit with my current best score being about 15 million, and I'm aiming for the 'perfect game' (all diamonds in the right order on every island, no lives lost) but haven't managed it yet!



THE UNCONVERTED

Arcade games that never made it home





IN DEPTH

» During the pursuit, these blue orbs inscribed with the letter J will appear on the road – pick them up to top up your jump reserve.

» This is your avatar, and you have two powers at your disposal: a turbo boost to rear-end and shunt enemy drivers off the road, and a limited jumping ability.

» The gameplay is basically split into two parts: take out the gang members and then bash the stuffing out of their leader. Both must be done in a strict time limit.

A.B. COP

■ **Developer:** Sega ■ **Year:** 1990 ■ **Genre:** Racing

■ **Fans of *Chase H.Q.* should most certainly set time aside this month to investigate Sega's *A.B. Cop*: an unconverted action racer that plays like a blend of *Hang-On* and Taito's cop-chaser classic.**

Set in the future, you assume the role of a mysterious traffic-cop-with-no-name who rides an air bike and is tasked the thrilling job of hurtling down sprite-scaling roads at breakneck speeds to hunt down a band of intergalactic criminals and their biker gang pals. Before the start of each mission, a cinematic flashes up to show you who it is you're chasing and why, the list of criminals including an escaped biomechanical monster that breaks free from its lab, a drug dealing samurai, and a kinky kidnapper who likes to imprison underwear models and dress up like a clown.

In what can only be described as a pretty lazy and unsatisfying finale, the last mission sees all the criminals that you've just invested your hard-earned cash imprisoning escape from the clink and you having to recapture them all over again. This bizarrely leads to a final fight against a goofy alien who attacks by throwing sprites of himself at you.

As well being able to bank left or right, the cop has two tricks up his sleeves: an unlimited speed boost, which doesn't last long before it needs to replenish, and a limited jump ability, while using them together (turbo-ing towards an enemy and then pressing jump to smash into its chest) proves a good technique to drain energy from the bosses.

There really isn't a hell of a lot to *A.B. Cop*, but you'd struggle to find a more satisfyingly shallow arcade experience. The levels are fairly easy to complete; the bosses and enemies are essentially palette swaps; the roads are dressed with hardly any detail… or even traffic until you reach the last few missions. And the gameplay is as simple as it comes – smash into a requisite number of bikers before the timer reaches zero, and then repeatedly smash into the stage boss until it explodes – but that's part of its charm.

Displaying all the pleasant and comfortable trappings of a Nineties action arcade racer, *A.B. Cop* is perfect for an amusement arcade setting, but had it received a home console conversion we'd imagine you'd be feeling quite short-changed.



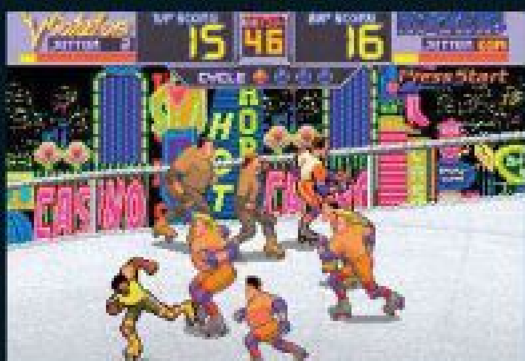
CONVERTED ALTERNATIVE

CHASE H.Q. 1988

A.B. Cop is clearly Sega's stab at replicating the success of *Chase H.Q.*, but with the action dropped into a future setting with motorbikes. It doesn't quite match *Chase*'s character, visuals or overall quality, but it's still ruddy good fun nevertheless.

ROLLERGAMES

■ **Developer:** Konami ■ **Year:** 1991 ■ **Genre:** Beat-'em-up



[Arcade] Visually, Konami was clearly trying for something along the lines of *Guardian Heroes* meets Scissor Sisters.

■ **Konami produced a** load of licensed coin-ops in the Nineties, and a number were unconverted titles that have featured on these pages in the past. *Rollergames* is one of its most obscure, and that's because it was based on a short-lived US TV show of the same name that ambitiously tried to do for the sport of Roller Derby what the WWF did for grown-up play-fighting. Anyway, the show never took off, only lasting a single season, but enough potential was seen in it to put an arcade game into production, and this was the result. *Rollergames* can best be described as an on-rails side-scrolling beat-'em-up. It sees you select your team from the six on offer and compete in four rounds, two with the men and two with the women, to complete a cycle of the track and basically rack up as many knock-downs as you can in four rounds. When the race is over, an unnecessary and embarrassing-looking one-on-one fight breaks out with two moves: punch and kick. With no difference in the tracks you race other than the background graphics, the game a clear button-basher, and with all the teams sharing the same move repertoire, *Rollergames* is fun in short bursts but gets repetitive quite quickly. While *Rollergames was released for the* NES a year before the coin-op, it's dramatically different.

CONVERTED ALTERNATIVE

DJ BOY 1989

Featuring forced scrolling stages and roller skates, Kaneko's *DJ Boy* sees a cartoonish roller derby fighter taking the sport of skate combat onto the streets. Clearly designed to tap into the hip hop culture of America, the game was exclusively converted to the Genesis.



CONVERTED ALTERNATIVE

GUNBIRD 1994

We opted for this fun and entertaining shooter by Psikyo, which was released the same year as *Eight Forces*, features a large roster of quirky characters, and also starts the player off on a random stage too. It was ported to the Saturn and PlayStation.



EIGHT FORCES

■ **Developer:** Tecmo ■ **Year:** 1994 ■ **Genre:** Shoot-'em-up



[Arcade] A tough one to recommend, *Eight Forces* is a decent shooter, but by heck is it bloody hard going.

■ **This unconverted shooter** is guaranteed to provide a workout for more dextrous shoot-'em-up players out there. Tecmo's *Eight Forces* is a gruelling vertical shooter that boasts a couple of rather nice twists – the first of which sees player one and player two given their own unique selection of four ships to choose from at the start of the game. Player one is given the choice of a quartet made up of craft piloted by biomechanical characters that look like they were lifted from moody looking anime shows (plus an odd wine-swilling chap with a horse's head), while the second player's fleet comprises four colourful and slightly less menacing-looking quirky cutesy ships. With a simple weapon levelling up system, and each ship having their own unique spread bomb secondary attack, the other notable aspect of *Eight Forces* is that the game seems to start you off on a random level with each load-up – we started and restarted the game several times to check this theory. It's a good idea though, as the game is so bloody nails that it's the probably the only way you'd ever get to see more than one stage.

BEST LEFT IN THE ARCADE

NINJA CLOWNS

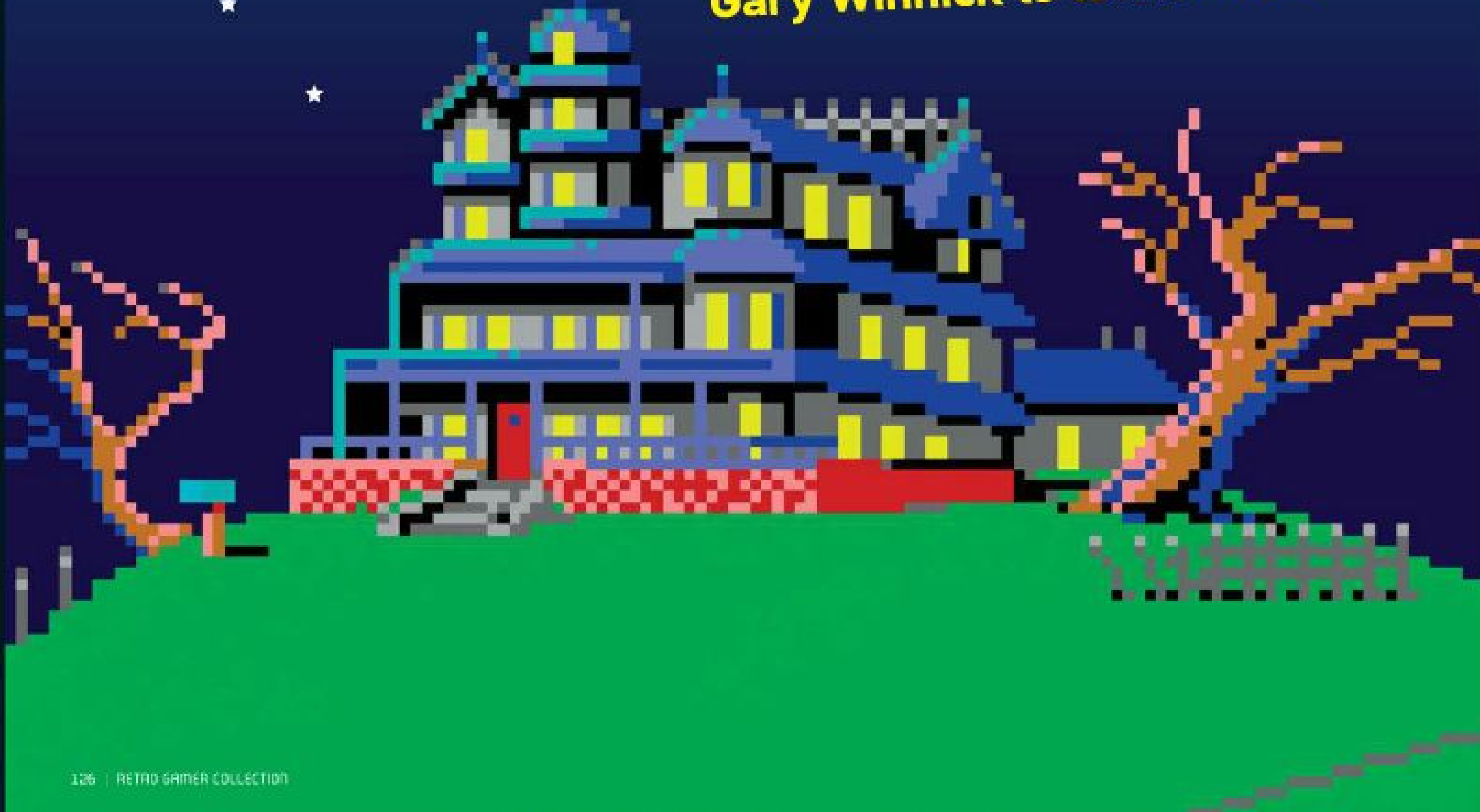
■ **Developer:** Strata ■ **Year:** 1991 ■ **Genre:** Beat-'em-up

■ **Developed by the** people that brought us the *Golden Tee Golf* series (those trackball golf games you only ever seem to see in pubs), *Ninja Clowns* is one the developer's more forgettable titles. Though we will admit it does have a certain offbeat charm, there is little doubt we should all be thankful for the fact we were mercifully spared a home conversion. We couldn't determine any real plot propping up its gameplay; it simply appears to be about two aggressive clowns who take to the streets to indiscriminately beat up – using a mixture of ninja moves and clown equipment – whatever and whoever they come across, be they league bowlers, businessmen, vomiting bearded ladies, Elvis impersonators, or a freakish leggy buxom chicken/lady that bends over and launches eggs from her pert arse. As we said, it has moments of offbeat charm. Not terrible, but certainly not great either.



Maniac Mansion

Danger meets a sense of humour, a spooky mansion, a missing cheerleader and a disembodied tentacle wanting to make it in the music biz. These are just some of the ingredients of one of the best adventure games ever made. Stuart Hunt speaks to Ron Gilbert and Gary Winnick to learn more







Forget for one moment its hilarious script and seminal SCUMM engine. *Maniac Mansion* proved that videogames could capture the essence of an entirely different medium and opened our eyes to the wonderful things that happened when they placed their interactive stamp on them.

For the benefit of those who have never played *Maniac Mansion* before, it's a comedy adventure game with a story that takes place inside a big, creepy house occupied by a family of complete oddballs. The family's odd behaviour started 20 years ago when a strange, sentient meteorite crashed near their home. Due to the peculiar mind-controlling properties of this strange slab of space rock, the patriarch of the family, Dr Fred Edison, spends a large portion of his evenings sucking the brains from poor humans for use in bizarre scientific experiments. This behaviour is accepted and positively encouraged by his wife Edna and son Weird Ed, but also hasn't gone entirely unnoticed by one outsider.

When pretty cheerleader Sandy Pantz mysteriously disappears without a trace, her boyfriend, Dave Miller, immediately suspects that the mad doctor is responsible, and with the help of two friends plots a daring mission to break into the mansion and rescue her before it's too late.

It's a story that seeks to emulate those countless cheesy horror films in which a group of teenagers enter a creepy-looking house and are gradually, and gruesomely, removed from the picture one by one. Of course, what made *Maniac Mansion*'s version of that well-told tale so special is that you got to call the shots.

An idea conceived by two men, programmer Ron Gilbert and graphic artist Gary Winnick, *Maniac Mansion* became a landmark title in 1987 thanks to its improved point-and-click interface, which helped change the way the adventure game was played. That it encompassed both great gameplay and innovation comes as little surprise when we asked Ron to explain when it was that he discovered an interest in videogames.

"My interest in videogames squarely revolved around making and programming them," he says. "One of my close friends had an Atari 2600 and we'd spend hours playing *Pac-Man* and *Missile Command*, and I'd wonder how the hell they were programmed."

That fascination would see Ron learn to program on his father's programmable calculator, and later hone his skills writing his first games on a Commodore 64. It also saw him get his break in the industry not off the back of a computer game but a graphic manipulation extension he wrote for the C64's custom BASIC language. It was this that landed him a job at Californian software developer/publisher Human Engineered Software (HESware) and, through a colleague at work, later led to a temporary contract at a fledgling Lucasfilm Games.

At the time, game designer Noah Falstein (co-designer of the classic Williams shooter *Sinistar*) was leading the development for the Lucasfilm game *Koronis Rift* and offered Ron a three-month contracting job to do the C64 programming on the game. It was during the project that Ron met Gary and a significant friendship was struck.



IN THE KNOW

- » **PUBLISHER:** LUCASFILM GAMES
- » **DEVELOPER:** IN-HOUSE
- » **RELEASED:** 1987
- » **PLATFORM:** APPLE II, C64, PC, AMIGA, ATARI ST, NES
- » **GENRE:** ADVENTURE



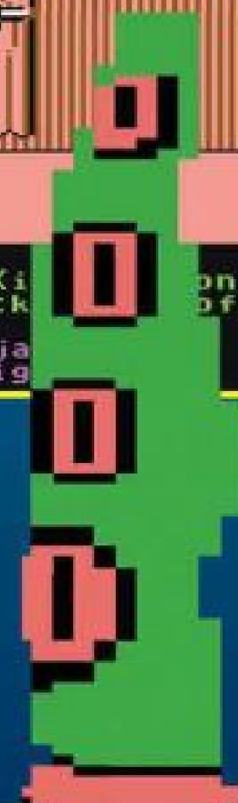
"Ron and I started hanging around with each other while he was working on the C64 port of *Koronis Rift*," remembers Gary. "I believe I was working on *Labyrinth*. I think we both were working later in the evening at the time. We discovered we shared a similar sensibility for the same twisted humour, enjoyed the same movies and television programmes."

Shortly afterwards, Ron was taken on full-time at Lucasfilm Games, and his and Gary's chats soon turned to discussions of working together on a graphic adventure game.

"Ron had been playing some Sierra graphic adventure games and showed me *King's Quest* and *Space Quest*," recalls Gary. "We started toying with the idea of doing our own graphic adventure. I think we had watched some ridiculous teen horror movie; I really can't remember the title, but it was one of those plots where a group of teenagers end up in a creepy house and get slaughtered one after another, and of course no one ever thinks of getting the hell out of there. We continued discussing the movie and similar ones we had seen – *Friday The 13th*, *A Nightmare On Elm Street*, etc – and talking about all the similar horror movie clichés. We kept noodling the idea, and some time later I drew a sketch of a creepy house with a sign out front: 'Trespassers will be horribly mutilated'. Also, early on we came up with the idea of a deranged mad scientist/doctor type who lived there that eventually evolved into Dr Fred."

The idea of *Maniac Mansion* came about as a result of Ron's interest in adventure games, the pair's mutual love for bad horror flicks, and a strong desire to meld the two. Which movies in particular helped inspire and inform *Maniac Mansion*'s look and design, though? "Just about everything campy," answers Ron. "Gary and I loved *Re-Animator*, and *Little Shop Of Horrors* had just come out, so that's where we stole… I mean 'paid homage to' the big man-eating plant."





"Little Shop Of Horrors had just come out, so that's where we stole the big man-eating plant"

But while you could argue that *Maniac Mansion*'s story wasn't wholly original, given that it was mainly conceived as a collage of ideas from a range of horror film sources, it did bring a number of innovative concepts and ideas to the adventure genre.

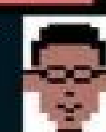
As well as providing the birthing room for the famous SCUMM (Script Creation Utility for *Maniac Mansion*) engine, *Maniac Mansion* was also notable for being one of the first computer games to have 'proper' alternative endings, cinematic cut-scenes that offered players subtle visual clues to help solve puzzles, fiendish brainteasers that offered more than one solution, and a varied cast of playable characters that each exhibited a different combination of characteristics and skills.

Its cast of seven adolescents ranged from the geeky in bespectacled Bernard, whose speciality was fixing electronic devices, to the edgy with New Wave musician Syd, who wore shades and a dark skinny suit. In fact, pretty much all the stereotypical high school cliques were present and included – the jock, the nerd, and even the photographer for the school newspaper.



» [Famicom] In the Famicom version, the kids look completely different. It also features flick-screen scrolling, and some background graphics and music are missing.

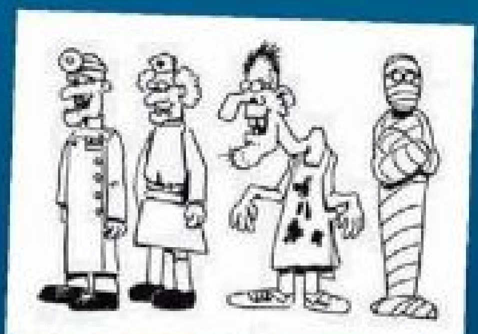
EXPERT OPINION



CHARLES CECIL
co-founder of Revolution Studios, developer of *Broken Sword* and *Beneath A Steel Sky*

"I am deeply ashamed to admit that I missed *Maniac Mansion* first time around. In the late Eighties I was head of development at Activision, which was publishing Sierra adventure games, so I was more in tune with the *King's Quest* and *Leisure Suit Larry* adventures. And then, as Revolution was being conceived, the big titles from LucasArts were *Indiana Jones And The Last Crusade* and, of course, *Monkey Island*. I do rate *Maniac Mansion*'s sequel, *Day Of The Tentacle*, which came a couple of years later, as one of the best adventures ever."







» [NES] Cut-scenes occasionally interrupt the gameplay. They not only drive the story but also offer subtle clues to how to solve certain puzzles.

While popular class presidential candidate Dave Miller was a compulsory member of the rescue party, players had the freedom to select two of his chums to accompany him into the mansion, and picking which two characters to take was appealing for many gamers. It allowed them to tailor their experience, experiment with their selections and replay the game over with different combinations, sometimes revealing new events in the story but always eking more longevity from the game.

Maniac Mansion could be completed using any combination of characters, but your selection affected how you would have to go about solving the puzzles. In short, your choice would influence the storyline and make the mission easier or more challenging. It had a bearing on the ending too, of which there were multiple outcomes – both good and bad.

Considering how important a part the choice of multiple characters would play in *Maniac Mansion's* design and popularity, we were especially interested to find out how Ron and Gary selected their memorable cast. Were they based on anybody they knew? Their own school friends, perhaps?

"Yeah, they and all the characters are based on real people," answers Ron, "but I can't say who because I'd get in a lot of trouble. I have heard some people say Nurse Edna was based on my mom, which is completely false. There was a lot of back and forth on the kids and who they were. We came up with a lot of ideas and eventually narrowed it down to the seven that you played with. The final list was chosen based on who was funny and if we came up with good puzzles for them."

And the origins of the kooky Edison clan? "I believe it was a combination of movie characters," Gary answers. "Also, for me, a bit of a twist on EC Horror comic books and Warren magazine mascot characters, and a bit of a few people we knew thrown in as well."

While *Maniac Mansion's* varied cast continues to set it apart from other adventure games today, perhaps the most important element of the game's design was the mansion itself. The thing that draws and holds all the characters, gags and ideas together, it was crucial it had a sense of both grandeur and creepiness. To achieve this, and to also inject a real sense of architectural authenticity into its walls, it's rumoured that Gary used the main house on Skywalker Ranch as the main inspiration when coming up with the look of the Edison's eerie abode.

"That's true. I looked at the main house for the exterior," confirms Gary. "I also based the library, including the spiral staircase, on the Skywalker library. Trust me, if you were actually there and designing a rambling mansion, it was a great place to research. Most of the rest of the layout is only inspired by – not really based on as any accurate representation."

Working on *Maniac Mansion* was a close-knit trio that comprised Ron, Gary and programmer David Fox (creator of *Rescue On Fractalus!*), who also contributed to the dialogue in the game, while their colleagues Aric Wilmunder and Brad Taylor would later pitch in to assist on the PC port of the SCUMM engine. With *Maniac Mansion* being the first title on which both Ron and Gary ever worked as project leads, however, you might have expected

MANIAC TELEVISION

WITH ITS CAST of quirky characters, and a premise that slotted quite comfortably into the land of broadcast television, Lucasfilm saw the ideal opportunity to turn *Maniac Mansion* into a sitcom. And that's exactly what it did. The show was a collective effort between Lucasfilm, Atlantis Films and The Family Channel, where it aired in the States. It was also broadcast on YTV in Canada. The show was well received by critics, lasting for three seasons, and 66 episodes were filmed. Created by Eugene Levy (*American Pie, Splash*), the story focused on the Edison family, who inherit the mansion and then move in, unaware that a mysterious meteorite with supernatural properties lies nearby.

"That was a surreal experience," remembers Ron when we ask him about his and Gary's input into the show. "Gary and I didn't have any involvement in it, but we were really excited that one of our games was going to be made into a TV show. It started out being very much like the game, but as time went on, we'd get these memos from the production arm of Lucasfilm, and each one contained some element of the game that would no longer be in the TV show. 'Nurse Edna will no longer be called Nurse Edna.' It became a joke at some point."







DEVELOPER HIGHLIGHTS

MANIAC MANSION: DAY OF THE TENTACLE (PICTURED)
SYSTEM: PC, MAC
YEAR: 1993

THE SECRET OF MONKEY ISLAND
SYSTEM: AMIGA, ST, PC, MAC, MEGA-CD, FM TOWNS MARTY
YEAR: 1990

INDIANA JONES AND THE FATE OF ATLANTIS
SYSTEM: AMIGA, PC, MAC, FM TOWNS MARTY
YEAR: 1992



» [PC] SCUMM really spoils you on older adventures, since you don't need to be a human thesaurus.



EXPERT OPINION

DAVE GROSSMAN

Creator of The Secret Of Monkey Island and Day Of The Tentacle

"*Maniac Mansion* is not merely a great, hilarious, complex game that revolutionised a genre. It also somehow fits into 64K, which, in my opinion, qualifies it as genuine magic. It even has an excellent soundtrack! Yes, and it wasn't easy to write music that sounded good coming out of the nominal audio hardware that was built in to PCs in those days. More magic."

Lucasfilm management to have been keeping a very close eye on its progress and content, especially on some of its more risqué humour. But, in actual fact, quite the opposite was true.

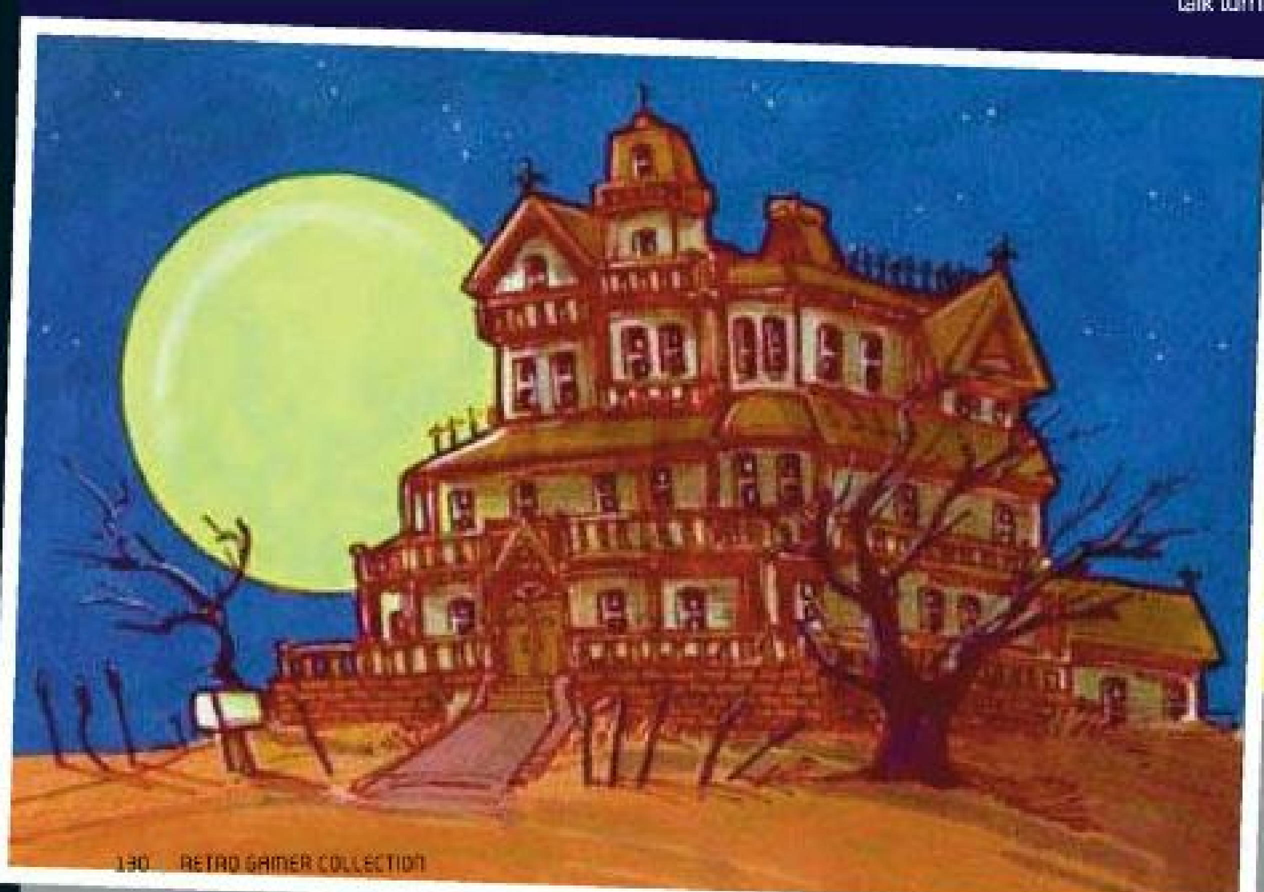
"We had very little oversight, which is one of the things I credit for Lucasfilm coming out with so many classic games back then," explains Ron. "We did what was fun and funny. One thing we had to cut that I clearly remember was one of the opening lines. Dave says: 'Don't be a tuna head.' This was originally 'Don't be a shit head', but we were told to change it. We argued with the head of [Lucasfilm Games], and I'm sure we talked about our 'artistic vision' and other stuff. In the end our boss told Gary and me to go away and think about why we wanted to swear. If we came back with a good reason, we could keep it. But we couldn't. It really taught me an important lesson about writing and how and why you choose the words you do. It's one of the main reasons you won't see swearing in a game I do."

It might also surprise many fans to learn that little of *Maniac Mansion*'s design and script was actually planned from the outset. Like the best comedy, the whole development process was largely organic and based around simply seeing what worked. "Very little was written down," reveals Ron. "Gary and I just talked and laughed a lot, and out it came."

Of course, it's impossible to discuss the impact of *Maniac Mansion* without talk turning to its legendary SCUMM system – the engine and scripting language designed especially for the game and that would go on to power some classics of the genre. Intrigued to find out exactly how this seminal control interface came about, we asked Ron to explain its origins and where it fits into the *Maniac Mansion* story.

"The verb interface came about because of my frustration with playing *King's Quest*," he reveals. "I hated playing this game called 'guess the parser' – was that 'a plant', 'a weed', 'a bush'? So we wondered if it wouldn't be better to just point at something. Trying to guess the name of something wasn't the game, in our minds. Once the nouns were gone, it made perfect sense to get rid of the verbs as well and make the whole thing point-and-click. I started to program the gameplay in 6502 assembly language, but it quickly became apparent that this wasn't going to work for a game this complicated. One of the other programmers at Lucasfilm, Chip Morningstar, suggested

> **"The interface came about because of my frustration with King's Quest. I hated playing 'guess the parser'"**

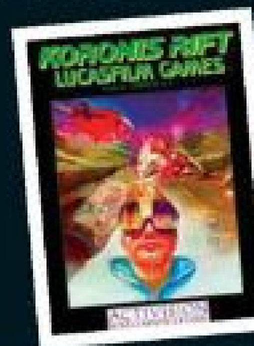




BMM (BEFORE MANIAC MANSION)

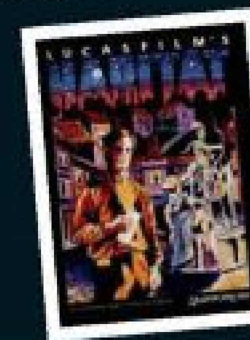
The earlier Lucasfilm games worked on by both Ron Gilbert and Gary Winnick

KORONIS RIFT



Systems: Atari 8-bit, Commodore 64, Apple II, ZX Spectrum, CPC, MSX, TRS-80
Year: 1985
Using the same fractal graphics technology used in *Rescue On Fractalus!*, *Koronis Rift* sees you controlling a rover vehicle to collect, analyse, sell and make use of recovered modules from the surface of a hostile alien planet, with the ultimate goal being to use the materials to destroy an alien base. Gary worked as a graphic artist on the game, while Ron programmed the C64 version.

HABITAT



Systems: Commodore 64
Year: 1986
Habitat is widely seen as the progenitor of both the modern MMORPG and *Second Life*. A social online role-playing game, it was released in a beta state in 1986 across the online C64 service, Quantum Link. Following a two-year test run, *Habitat* reappeared on the service in 1988 as *Club Caribe*, and the technology was licensed and eventually sold to Fujitsu. Gary worked on graphics and animation while Ron created the C64 object memory manager.

I make a scripting language, which sounded like a fun idea. Chip wrote the first pass of the compiler and I focused on the runtime engine. A good chunk of the first six or nine months was just me building the SCUMM system, while Gary and I continued to work on the design and he started on the art. Seeing the SCUMM engine execute its first opcode [a simple command that the language compiles into] was a great moment. It was about two in the morning and I wasn't going to leave until this thing worked, and I cheered when it happened."

As we know, the SCUMM system proved instrumental in helping to make adventure games more user-friendly, fun and popular for a wider audience. By removing the inherent frustrations and uncertainties of previous 'guess the parser' interfaces, having an interface that combined verb prompts with an intuitive point-and-click command system allowed users to simply get on and enjoy the action without all the inconsistency and blind guessing. And the simplicity it brought to the table would help to push adventure games into new levels of accessibility, and eventually popularity too.

Though Ron and Gary don't remember exactly how long *Maniac Mansion* took to create, they told us it was somewhere between 18 and 24 months. It was finally released in the winter of 1987 for the Commodore 64 and Apple II, appearing on the PC the following year, and has since graced the ST and Amiga.

An infamous sanitised port was also released for the Nintendo Entertainment System. Notable for being the first NES title put out by Lucasfilm, the console conversion, which was published by Jaleco, was heavily censored to make it more suitable for a younger audience and adhere to Nintendo's strict family-friendly policy at the time.

Programmer Douglas Crockford volunteered to complete the job as the management in Lucasfilm's games division were "overloaded, and the project was slipping between the cracks". The sanitisation process was famously documented in his online memoir, 'The Expurgation Of *Maniac Mansion*'. In it, Crockford went into hilarious detail about the trials and tribulations of trying to interpret the NES Game Standard Policy. With

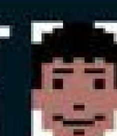


» [PC] Like many classic games, *Maniac Mansion* has received an unofficial sprucing up in the fan-made *Maniac Mansion Deluxe*

Nintendo requiring that all sexually suggestive content, depictions of excessive violence and even religious references be omitted, he lists a number of instances where content had to be altered to get it past Nintendo of America's censorship people. Suffice to say, it makes for a very entertaining and witty read.

Maniac Mansion garnered favourable reviews from the gaming

EXPERT OPINION



KEN WILLIAMS

Co-founder of Sierra On-Line

"Roberta and I never really played *Maniac Mansion*, or, at least, neither of us remembers it. We were fairly phobic about playing or studying competitors' products. I refused to hire anyone who had worked at a competitor, and really didn't want our team focused on competitors' products. Sierra always tried to consider ourselves as leaders, and wanted to forge our own path into the world. I didn't want to fall into the trap of watching what competitors did, and then releasing a 'me too' product a year later. That's a formula for disaster."





press upon its release. Popular Commodore magazine *Crash* awarded it 93%, branding it "an innovative and polished arcade adventure that shouldn't be missed", while multiformat magazine *Mean Machines*, reviewing the NES port, classed it as "a highly original and very addictive adventure that no Nintendo owner should be without".

Considering the amount of critical love for *Maniac Mansion*, coupled with the important things it did for the adventure genre, it is hard to imagine it being anything less than a hit upon its release. But as so often tends to be the way with cult classics, the popularity it saw was slow in coming.

"You know, it was well received at the time, but it wasn't a huge hit," remembers Ron. "The same is true of *Monkey Island*. People look back on these two games and their cult status today and assume that's the way it was from the beginning, but it wasn't. *Monkey Island* got good reviews, but Sierra was killing us in sales. When I left Lucasfilm, *Monkey Island* was just a game. It wasn't until several years later that I started to realise that it had taken on this cult following. That stuff takes time and it's unpredictable."

But with the interest in point-and-click games growing throughout the Nineties, and the renamed LucasArts becoming a dominant force in the genre thanks to a steady stream of quality adventures, including the exquisite *Maniac Mansion* sequel *Day Of The Tentacle*, its first attempt became a cult hit as gamers looked to experience for themselves the origins of a genre that they held so dear.

Still discovered and returned to by gamers today, *Maniac Mansion* is an enduring piece of software that captured the spirit of its time, even if it didn't find its audience immediately.

On why his game was and continues to be such a popular getaway for so many gamers, Ron puts much of it down to his actors. "Each one spoke to someone in some way," he told us. "Players could build these 'dream teams' of characters to go into the mansion with. They could personalise the game in a way they had not seen before. I also think it's a charming game, and thank God I didn't say: 'Don't be a shit head.'"

"It wasn't until years later that I realised that it had taken on this cult following. That stuff takes time and it's unpredictable"





We lift the roof off our favourite videogame buildings

BEST BUILDING SITE



Winner: Donkey Kong
Surprisingly there wasn't much competition for this category. *Hammerin' Harry* was the strongest contender, but in the end our love for *Donkey Kong*, combined with the iconic status of its first stage, sealed it. 'Fix!' you may well cry. We don't care.

BEST SKYSCRAPER



Winner: Elevator Action
Skyscrapers rarely feature in videogames. Most seem to congregate around *Die Hard* adaptations. This one, though, could be the first. We use the word 'could' as we're not sure it isn't just a fairly tall office block... although, isn't that basically what a skyscraper is?

BEST MANSION (RUNNER-UP)



Winner: Resident Evil
Well, the obvious winner had to be *Maniac Mansion*, but we felt an honourable mention was deserved for *Resident Evil*. It's a menacing locale with loads of areas to explore and zombie squatters, and the GameCube remake can still make us mess ourselves.

BEST ARCADE



Winner: Shenmue
There's a small minority of people who never finished *Shenmue*, not due to it being half-finished but because of reaching the arcade situated on the main street in Dobuita and forgetting all about revenge and the Phoenix Mirror. *Space Harrier* is far more important.

BEST SCHOOL



Winner: Skool Daze
Capturing so accurately the drudge and monotony of school life but using it to such great effect as to create a brilliant computer game, *Skool Daze* is the clear winner in this category. We did mark it down a few points for poor spelling, though.

BEST PUB



Winner: Tapper
Though we do question the common sense of the manager of a busy watering hole with numerous bars all manned by a single member of staff, in terms of lightning service few establishments can match the speed of this one. Watch out for the ones that only sell root beer, though.

BEST CASTLE

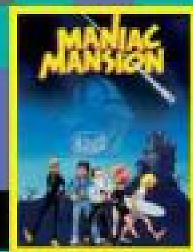


Winner: Castlevania: Symphony Of The Night
It wasn't the first time we'd explored Dracula's castle, but it had never felt so alive – or undead – as here. The kicker came when you finished the game, only to find the castle had inverted, giving you a whole new layout to explore.

Special thanks to Ron Gilbert and Gary Winnick for their precious time and Mat Allen for scanning the lovely cover art.

The SCUMM Effect

The full list of games to have 'picked up' SCUMM and 'used with' gameplay



1987



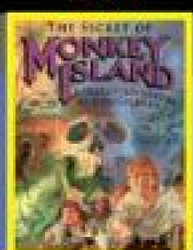
1988



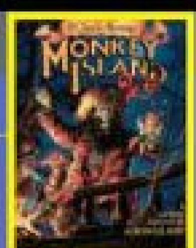
1989



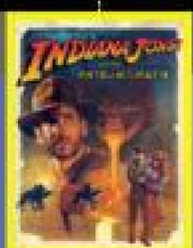
1990



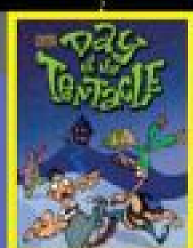
1990



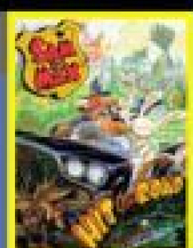
1991



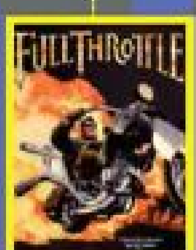
1992



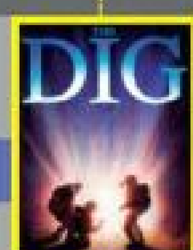
1993



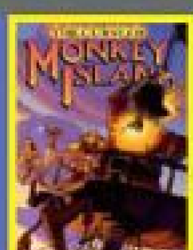
1993



1995



1995



1997

MANIAC MANSION

The game that started it all, hence the engine's name standing for 'Script Creation Utility for *Maniac Mansion*'. We could elaborate, but we've just written that bloody great feature on it.

ZAK MCKRACKEN AND THE ALIEN MINDBENDERS

Maniac Mansion was followed by the brilliant *Zak McKracken*. With a similar art style, it saw a jetsetting tabloid journalist trying to save the human race from space aliens.

INDIANA JONES AND THE LAST CRUSADE: THE GRAPHIC ADVENTURE

SCUMM made its movie licence debut with this tie-in with the last good *Indy* film. One of the best adventure film franchises coupled with the best adventure engine was a recipe for magic.

LOOM

Loom is unlike any other SCUMM adventure game. It eschews the traditional verb-object interface for one that sees you casting spells, known as 'drafts' in the game, to manipulate objects instead.

THE SECRET OF MONKEY ISLAND

The first in the *Monkey Island* series sees Guybrush Threepwood earn his pirate stripes. Designed by Ron Gilbert, Tim Schafer and Dave Grossman, it remains one of the most popular SCUMM titles of all.

MONKEY ISLAND 2: LECHUCK'S REVENGE

LucasArts then followed up with this superb *Monkey Island* sequel the next year. It had a darker tone than the original and was also the first SCUMM title to include a difficulty level.

INDIANA JONES AND THE FATE OF ATLANTIS

Widely regarded as one of the best LucasArts adventure games, *Fate Of Atlantis* was a resplendent sequel with a completely original story, therefore making it a must-play for *Indy* fans.

MANIAC MANSION: DAY OF THE TENTACLE

The superb sequels continued with *Day Of The Tentacle*, a follow-up to *Maniac Mansion*. Set five years after the first, it sees the player trying to thwart Purple Tentacle's plans to take over the world.

SAM & MAX HIT THE ROAD

Multiple characters kind of made a return in *Sam & Max Hit The Road*. A popular adventure series that is still going strong today through Telltale Games, it was the first new SCUMM game to feature full voice acting.

FULL THROTTLE

The first solo game from Tim Schafer was a belter. Termed a 'heavy metal adventure', *Full Throttle* followed a framed fugitive, revolving around biker gangs and primed with *Star Wars* references.

THE DIG

Based on an idea by Steven Spielberg, *The Dig* told the tale of an expedition to save Earth from an errant asteroid. With zero LucasArts humour, it's the most sombre of all the SCUMM games.

THE CURSE OF MONKEY ISLAND

After a lengthy break, *Monkey Island* returned to a rapturous PC market. Like *Full Throttle*, it adopted the 'verb coin' revision of the SCUMM interface as well as an entirely new cartoon art style.

Minority Report



Over the last few generations, gaming platforms have come and gone, and some have made a great impact; others perhaps less so. We look at hidden gems available on some of the less mainstream systems, and cult games on some of the more well-known…

» SUPERGRAFX



» [SuperGrafx] The transformation of *Aldynes*' first boss is one of the game's most impressive moments.

ALDYNES

■ SYSTEM: SUPERGRAFX ■ DEVELOPER: HUDSON SOFT ■ YEAR: 1991

■ **The surprising fact about NEC's overpriced SuperGrafx – a console that was only released in Japan, flopped spectacularly after a year, and had a mere five games released for it – is that three of its titles are actually rather good.** The first two are Capcom's excellent arcade conversions of 1941 and Ghouls 'N Ghosts. Aldynes is the third.

Hudson Soft's scrolling shoot-'em-up plays to the strengths of the SuperGrafx system, which itself was never a huge step up from the original PC Engine. Multi-layer parallax scrolling, sprite-scaling and large multi-part bosses are the order of the day, the former typified by the imposing first level guardian, a transforming monstrosity that could have given any of Michael Bay's creations a good thumping. Laser beams and bullets ping all over the shop, scores of enemies and explosions fill the screen, and the game remains solid and largely flicker-free. From a technical standpoint, it's mightily impressive.

Graphical niceties aside, *Aldynes* is an intense, high-quality shooter, which should come as no surprise given Hudson's pedigree with the likes of *Super Star Soldier* and *Soldier Blade*. In fact, *Aldynes* was developed for the company by an outfit called Produce, formed in 1990 by a group of former Irem employees. Indeed, gameplay-wise it owes a lot to the *R-Type* school of progressive option-based shmupping, your uber-sleek spacecraft being accompanied by up to four floating drones that can be locked into formation around your ship or sent off to scour the screen,

» AMIGA CD32



» SEEK & DESTROY

■ SYSTEM: AMIGA CD32 ■ DEVELOPER: MINDSCAPE / VISION SOFTWARE ■ YEAR: 1993

■ **This overhead chopper-'em-up** bears some similarities to *Desert Strike*, although it's a much faster offering. *Seek & Destroy* features the rarely used control system first seen in Namco's *Assault*, with your attack helicopter planted at the bottom of the screen and the environment spinning around it as you veer left or right. Missions vary from destroying enemy installations to rescuing hostages, and your extravagant payload of homing missiles, napalm and airstrikes adds to the fun. An enhanced version, with additional tank-based missions, was later released for the PC by Epic MegaGames.

» INTELLIVISION



» THUNDER CASTLE

■ SYSTEM: INTELLIVISION
■ DEVELOPER: MATTEL ■ YEAR: 1986

■ **A *Pac-Man*-style** game with an unusual gothic setting, *Thunder Castle* features a plucky knight battling dragons, wizards and demons in a series of mysterious, ever-changing mazes. From an aesthetic point of view this is the Intellivision's visual masterpiece, with exquisitely atmospheric graphics and wonderfully drawn intermission screens depicting your upcoming adversaries. The background music, featuring a variety of lovingly implemented classical themes, is also worthy of mention. There are only three stages in the game, but quality rather than quantity sets this title apart.

» NES



» GUN NAC

■ SYSTEM: NES
■ DEVELOPER: NEXSOFT/COMPILE ■ YEAR: 1990

■ **In the same** manner to how Konami took to spoofing its *Gradius* series with *Parodius*, Japanese developer Compile sent up its own *Aleste* franchise with this supremely silly but entertaining game, which got a stateside release late in the life of the NES. In *Gun Nac*, carrot-toting rabbits, acorns, fortune kitties and what appear to be rolls of loo paper try to take you down, while extraterrestrial smileys dish out a ludicrous array of power-ups and smart bombs. As with *Aleste* and its predecessor, *Zanac*, the main enjoyment comes from experimentation with the endlessly customisable weaponry.

» [SuperGrafx] Despite his terrifying appearance, this boss is a pushover.



» [SuperGrafx] The walls cause you to become stuck, and a sitting duck.





» ABOUT THE SYSTEM

- The SuperGrafx was a modified PC Engine with enhanced graphics, originally heralded as NEC's answer to the 16-bit Mega Drive and Super Famicom.
- Only five games were released specifically for the system: *1941: Counter Attack*, *Daimakaimura (Ghouls 'N Ghosts)*, *Aldynes*, *Battle Ace* and *Madō King Granzort*.

destroying enemies of their own accord – a system similar to that seen in the later *R-Type Delta*. Alternatively, holding down the second button causes your drones to encircle your craft defensively, a tactic that proves indispensable on later levels.

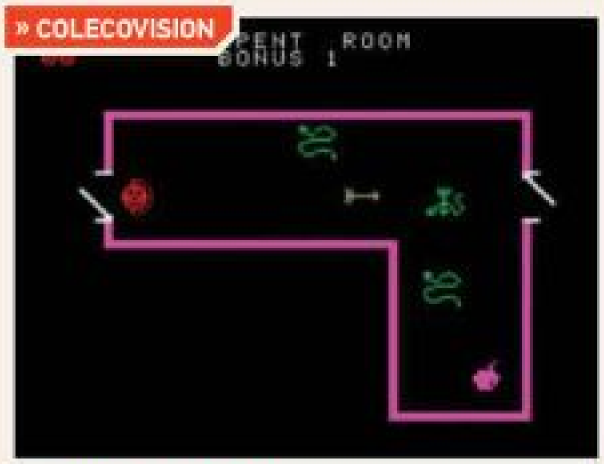
And, of course, there are plenty of weapon power-ups to keep you happy, our favourite being the one we've dubbed the Curly Wurly Laser™. This little beauty emits big blue loops of death along the edges of the screen to devastating effect, although admittedly it's less useful if there's something nasty right in front of you. Other goodies on offer include *Gradius*-style forward and diagonal lasers, and a spread-shot weapon that fires spherical green munitions, all of which can be upgraded to inflict maximum damage. Holding down the fire button allows you to charge a shield, which can be used to ram anything ahead of you. Add to this the blue lightning bolts that your drones spit out in 'free roam' mode and you've got a pretty intimidating arsenal at your disposal.

The seven stages are varied and distinctive, ranging from open outdoor areas to tight corridor sections where the movement and firing patterns give you precious little room for survival. Some stages also scroll up and down, giving you a bit more breathing space. Although tougher than old boots in places, *Aldynes* is nonetheless a must-play for the discerning shooter fan. Incidentally, the game's full title is *Aldynes: The Mission Code For Rage Crisis*, which is an adorable bit of Engrish that someone really should make a T-shirt of…



» [SuperGrafx] Watch out for the aerial mines that go out with a bang…

» COLECOVISION



» VENTURE

■ SYSTEM: COLECOVISION
■ DEVELOPER: COLECO/EXIDY ■ YEAR: 1982

■ **Exidy's arcade adventure** casts you in the role of a rather unlikely hero, a disembodied head with a bow and arrow called Winky, whose goal is to raid a series of meanie-filled rooms for treasure. *Venture* plays like a primitive version of *Atic Atac*, and shares a lot of similarities with Stern's more famous arcade shooter, *Berzerk*. Graphically and aurally the ColecoVision effort is pretty much a perfect conversion, although as the arcade version used a pressure-sensitive joystick, which was impossible to re-create, Coleco's port introduced a slight delay between movements, which can prove irritating in tight corners.

» ATARI 5200



» ZENJI

■ SYSTEM: ATARI 5200
■ DEVELOPER: ACTIVISION ■ YEAR: 1984

■ ***Zenji* is an** inventive cross between a puzzler and maze game that involves guiding a face around a grid of hexagonal blocks via a series of tracks, attempting to fill the grid with a uniform green colour. This is achieved by rotating the blocks so that the tracks all interconnect, all while avoiding nasties, which become more of a threat the closer you get to your goal. *Zenji* requires a certain amount of forward thinking under pressure due to the tight time limit, and its unusual concept may prove a little confusing at first, but stick with it because it proves an engrossing and addictive little title once everything clicks.

» C64



» RAGING BEAST

■ SYSTEM: C64
■ DEVELOPER: FIREBIRD/JAWK ■ YEAR: 1985

■ **Also known as** *Olé!*, this hilarious budget title is a tongue-in-cheek simulation of the controversial art of the matador, albeit one in which the protagonist usually comes off far worse than the bull. Indeed, the star of the game is Alfonso, your bovine foil with a really bad attitude, who takes great delight in humiliating our hapless toreador at every turn. Last long enough waving your red towel in his face and you'll get the chance to pin a wreath on his bonce and win the game, but there's a higher chance of ending up in hospital after he's tossed you across the ring then sat on you, applauding himself in the process.

Future Classic

Modern games you'll still be playing in years to come







INFO

- **» Featured System:** GameCube
- **» Year Released:** 2003
- **» Publisher:** Nintendo
- **» Developer:** Retro Studios
- **» Key People:** Stephen Barcia (executive producer), Mark Pacini (lead designer), Todd Keller (lead artist)

GO DEEPER

» Completing everything unlocks a gallery, where you get to see Samus's human face in concept.

» Early development screens indicate it got reasonably far in third-person – you can see Samus wandering around Chozo Ruins.

METROID PRIME

Nintendo's seemingly odd choice of developer for a 3D return to Metroid resulted in one of the most perfectly constructed games of the last generation

THE BACKGROUND

Nintendo failed to get a *Metroid* game off the ground on N64, finding neither the right ideas nor developer to take Samus into 3D. Meanwhile, Texas-based Nintendo affiliate developer Retro Studios, partly composed of former *Turok* team members from Iguana, was set up in 1998 and began work on a number of titles for the GameCube. After a visit from Shigeru Miyamoto in which Retro demonstrated the projects it had, the *Mario* creator wasn't impressed. However, based on the strength of one team's action-adventure prototype with a female lead, Retro was handed the *Metroid* licence and set to work, Miyamoto suggesting that *Prime* was switched from a third-person to a first-person viewpoint.

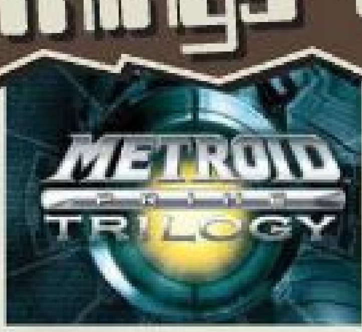
In 2002, Nintendo purchased the majority shares of Retro Studios, with founder Jeff Spangenberg ousted and management changing hands. Around this time, the other projects at Retro (a football title and promising-looking RPG *Raven Blade*, among others) were scrapped, with much of the studio staff laid off. The remaining team crunched to complete *Metroid Prime* – the first finished title to come out of this turbulent development culture – which would ultimately establish the studio's reputation.

THE GAME

Metroid Prime represents the perfect transition of a videogame from 2D to 3D, essentially recreating *Super Metroid* in a 3D space. Even though the game did passionately carry over the puzzle/adventure complexity of its SNES iteration, putting Samus Aran into first-person was a fascinating new way to play, and the focus on learning the intricacies of each level from this perspective would be vital to success. It wouldn't have been enough to only put a SNES game in a modern videogame template – Retro experimented with environmental design in a way that revolutionised what *Metroid* represented in the games industry.

The gargantuan, complex world of Tallon IV can only be conquered by understanding Samus's strengths and limitations. That's always transforming from hour

Things of note











Re-Primed on Wii

Prime was bundled with its two sequels into a Wii package that enabled you to play using motion controls. It's the indispensable version for series veterans.

Go West

Retro's input in major franchises for Nintendo has become significant since Prime's release, most recently working on *Donkey Kong Country Returns* and tracks for *Mario Kart 7*.

Frosty reception

Metroid Prime was approached cautiously upon the announcement that it would be a first-person game – it wasn't until hands-on demos that critics started to praise the decision.

Balls away

Third-person Morph Balling was also welcome, as it shifted the feel of *Metroid Prime* into something a little lighter – and resulted in some fantastic physics puzzles.

Samus link-up

Prime boasted what was arguably the best GameCube-GBA connectivity, when linked with *Metroid Fusion*: the *Fusion* skin for Samus, as well as the original NES game.



» [GC] *Prime*'s Levels are densely packed, cleverly designed to provoke the player's interest using the scanning visor.



» [GC] The various creatures frequently respawn, an irritating hangover from antiquated game mechanics.



What the press thought

NowGamer.com
Score: 9.8
"It's well thought out and the gameplay is perfectly balanced in every way."





games™
Score: 10/10
"Buy it, play it, love it and then play it all over again – there really is no other way to describe it. Just brilliant."

to hour, as the player unlocks different armour sets, visors and beams, none of which are inconsequential. Each power is designed to help in some small fashion, with that gradual process of discovering items provoking lateral thinking when you backtrack to areas and see what extra potential lies within them. It's a rewarding, open structure that again harks back to *Super Metroid*.

Every environment tells its own story, too, from the icy landscapes of Phendrana Drifts to the vaguely scary Phazon Mines. *Metroid Prime* largely takes place in enclosed spaces and labyrinthine tunnel layouts, but the stunning fidelity of the art direction makes for a unique feeling of exploration on Tallon IV, as these vastly different locations overlap with each other in a harmonious way. This is another reason why the decision to make the game in first-person paid off – there really are so few videogames that populate 3D spaces as compellingly as this.

The planet *is* the story in *Metroid Prime*. The scanning mechanic, enabling the player to examine almost every object and enemy, gives background minutiae about Tallon IV that creates a more interactive approach to the narrative. At a time when voice-acted, expositional cut-scenes were becoming prominent, making the bulk of the story something that you have to uncover was a forward-thinking decision. Graphically, it also helped that Samus's character model was the most impressive visual people had seen on the GameCube to date.



Whatever players discover about the planet, Tallon IV remains enigmatic, and you're always exploring it with a sense of trepidation. Nothing is quite as it seems, and it's that combination of eerie audio design – which nicely recalls past *Metroid* games, too – and visual imagination that really made *Metroid Prime* a critical darling.

WHY IT'S A FUTURE CLASSIC

Metroid Prime is the kind of game that we doubt today's casual-aware Nintendo would make – it's complex without pandering to the player, requiring patience before the true intelligence of its design becomes clear. *Metroid*'s move into 3D was as creatively significant as *Zelda*'s had been five years earlier, and stood as a demonstration that the mechanics laid out in the NES and SNES-era *Metroid* titles were built to last on future platforms.

What Retro brought to the series, though, was the understanding of how the smallest details of a 3D environment should affect the player's experience, and that lending each facet of a world some kind of hidden meaning would heighten our fascination with the game.

Nintendo's touting of *Prime* as a 'first-person adventure' rather than an FPS may have smacked of corporate nonsense at the time, but the description was absolutely spot-on. Shooting is simply a means to an end; just a single mechanic along the way in figuring out how to move forward in an immense, unsettling world. *Metroid Prime* was never imitated, and it ranks alongside *Half-Life 2* in its scope of what a first-person videogame can portray.

sinclair


commodore 64
ZX Spectrum
C64 RULEZ!
I ♥ SPECCY
Walk to Open Walk to New Kid Turn on
Push Close Pick up Unlock Turn off
Pull Read What is Use Fix
Give





PLAYGROUND BATTLES

IT'S THE LONGEST-RUNNING DEBATE IN UK GAMING, AFTER 30 YEARS. AND RETRO GAMER IS DETERMINED TO FINALLY PUT THE DEBATE TO REST AFTER ALL THIS TIME. WE SPEAK TO THE EXPERTS, SURVEY OUR READERS AND EXAMINE THE PROS AND CONS OF EACH SYSTEM TO DEFINITIVELY ANSWER THE QUESTION: WHICH IS BEST: COMMODORE 64 OR SPECTRUM?

★ GRAPHICS

Let's be honest, right from the start. It's been 30 years since both of these venerable computers were launched, and neither of them is looking like a spring chicken. If you'll allow us to put nostalgia aside for a moment, neither computer can boast the best-looking graphics in videogame history. But what's interesting is that both have their own distinct style.

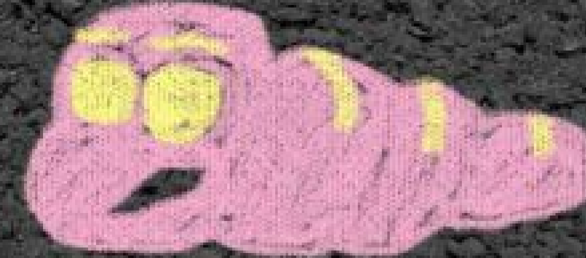
The Commodore 64 suffers from a very blocky look. You can see every pixel that has gone into building up the image, and while there's a certain level of artistry to this, there's no denying that the overall look is a little like an impressionistic painting put together with Lego bricks. And in a strange palette of pastel colours, no less.

The Spectrum, on the other hand, suffered from its own set of problems, not least the infamous colour clash, which saw sprites of different colours change to an unintended hue whenever they passed over each other. The general solution to this was to render each screen in a single colour to avoid clash, but this, of course, gave Spectrum games a monochrome look that contradicted the name of the system and certainly looked a little primitive next to other 8-bit systems.

Charles Cecil, creator of *Broken Sword*, worked for both US Gold and Activision toward the peak of the 8-bit computer era and had extensive experience with both titans of the Eighties. "While the Commodore 64 was technically more powerful, the hardware sprite limitations made the games feel less exciting," Cecil says. "The Spectrum may have been prone to attribute problems, but it could fill the screen with vibrant colours. Developers like Ultimate Play The Game pushed the Spectrum to the limit with their visual, as well as gameplay, masterpieces."

Ste Pickford, one half of the Pickford brothers and co-creator of 8-bit titles like *Zub* and *Feud* tends to agree with Cecil. "As a graphic artist, I preferred the Spectrum's crisp, clear, brightly coloured pixels over the Commodore 64's smudged, fat, murky browns and greys, despite the colour limitations of the Spectrum," he says, before drawing upon a fittingly retro analogy. "I always wanted to be a comic artist, and grew up on A4-sized black-and-white British comics. Anything from *Whizzer And Chips* to *2000 AD*, to Marvel UK's black-and-white *Spider-Man* reprints – which I much preferred over imported US comics, which were smaller, with smudged, blurry colours and printed on toilet paper. In my head, the Spectrum was like a brilliant issue of *2000 AD*, whereas the C64 was like a rubbish American comic. My preferred drawing style was black-and-white line drawing, so making





Spectrum graphics, using just one pixel colour at a time, suited me much better than the more painterly style required for C64 graphics."

Allowing nostalgia back into the conversation, we have to admit that one of the best things about both computers' graphical styles is that they were instantly identifiable with their host platform. Look at a screenshot of a game developed specifically for the C64 or Spectrum and you don't need a caption to tell you which system you're looking at. Can you say that about the Xbox 360 or PlayStation 3? We doubt even their creators could.

So which is best? Aside from expert opinion, perhaps the fairest way is to look at the way multiformat games compare to each other. While games made specifically for each system play to their strengths and look fantastic in their own right, they fare differently when ported across to the other system. A lot of Spectrum games remained largely the same when ported to the C64, making for some lazy-looking conversions like *Head Over Heels*, which retained the Speccy's monochrome graphics. Yet when C64 games were translated to the Spectrum, they often had to be redrawn completely and therefore got a chance to take better advantage of their new home. *The Last Ninja*, for example, arguably looks even better when ported to the Spectrum by sacrificing colour in exchange for a greater level of detail.



WINNER: ZX SPECTRUM

Though technically inferior, the Spectrum's visuals prove more popular with the experts and handle multiformat development with more grace.

★ SOUND

There really is no contest here. While the ZX Spectrum certainly emitted sound, hardly any of it constituted music or sound effects in the conventional senses of the words. Rather than outputting sound to the television, the original 48K model of the Speccy used a cheap speaker built into the machine itself. Though capable of producing ten separate octaves, it did so through just one channel and the results were about as musical as a Geiger counter. No matter how much talent a programmer had, you weren't going to get anything to whistle along to from this.

The Commodore 64, by contrast, must have seemed like a full symphony orchestra in your living room. The much-celebrated SID chip sitting inside every Commodore 64 had much more in common with the inner workings of a synthesizer than any comparable home computer of the time, and it basically functioned as such. Capable of creating one of five waveforms across three distinct outputs at once, the SID was a more complex beast than you could ever rightly expect at the time and allowed talented musicians to create some of the true audio masterpieces of the early medium.

If you care to mention any of the great videogame musicians of the home computer age, almost all of them came from the C64. Names like Rob Hubbard, David Whittaker and Martin Galway are as synonymous with the C64, if not more so, than any programmer or artist of the time. Great games like *Rambo: First Blood Part II*, *Wizball* or *International Karate* were made even greater by their memorable scores. C64 game music was so good, in fact, that it translates brilliantly to real instruments, making for enjoyable live performances, but can also be enjoyed in its original format. Downloads of the original SID files are prolific on the internet, and there's even an iPhone app called SID Player that allows users to download and listen to practically every SID tune ever created.

"My first love was always the SID chip," says Jonathan Dunn, the composer behind such C64 games as *Operation Wolf*, *Rambo III* and *The New Zealand Story*. "The possibilities seemed endless and I was always finding new things you could do with it. The AY chip on the Spectrum was useless. Unless you really loved the sound of square waves." Mike Dailly, creator of the C64's *Ballistix* and *Blood Money*, adds simply: "The sound was in a class of its own."

It wasn't just games that benefited from the SID chip either. The little chip soon took on a life of its own as C64 enthusiasts fell in love with its sounds, which were as unique and identifiable as the Commodore 64's graphics. The Ocean loading theme, for example, which played as an Ocean

> "LOOK AT A GAME AND YOU CAN TELL WHICH YOU'RE LOOKING AT. CAN YOU SAY THAT ABOUT THE 360 OR PS3?"





» [Spectrum] The Speccy's limited palette led to a distinctive graphical style that's quite unlike any other system.

Could Have Been A Contender

The 8-bit computers that don't even factor into our argument

ATARI 8-BIT

In the wake of the videogames crash of 1983, Atari wisely branched out from console games into the world of computers with its range of 8-bit, programmable systems. Though virtually unknown in the UK, these systems were fairly popular in the US and had their fair share of decent titles. Sadly, they never got near the phenomenal popularity of the C64 as a games machine or Apple's business-oriented computers either.

AMSTRAD CPC

Arguably the closest system to third place in the UK, the CPC sat somewhere between the C64 and Spectrum in terms of capability and appeared to embrace the games industry more than the Sinclair. It garnered strong support in the UK, and some of its conversions are the superior iterations. Ultimately let down by a comparative lack of original titles and international support, the CPC was nevertheless adored by its passionate fan base.

MSX

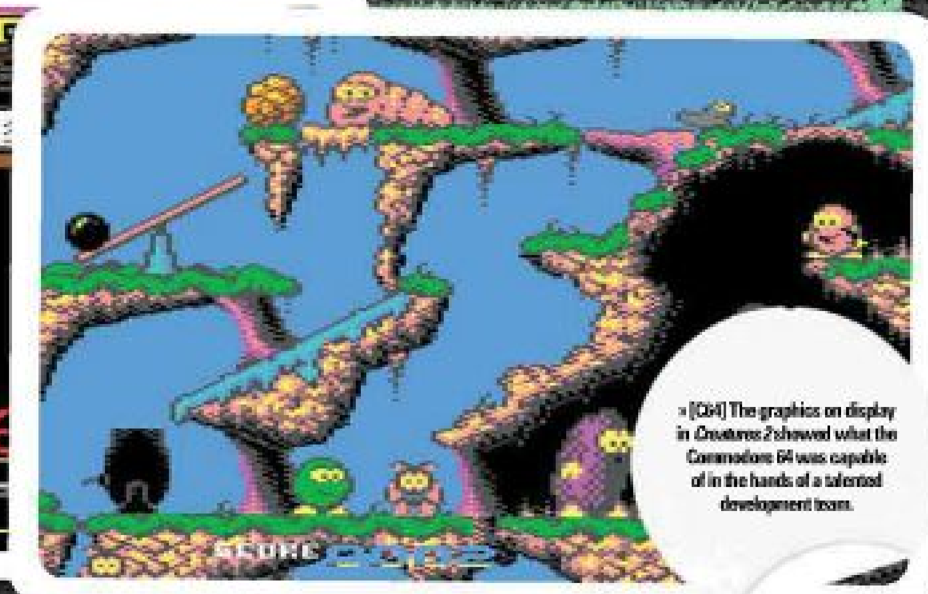
This early attempt at a standard format was popular in Japan as well as the Netherlands and parts of South America. It's perhaps best known for great Konami games like *Metal Gear*, *Vampire Killer*, *Penguin Adventure* and *Parodius*, but these cartridge games were expensive. Tape games were also available but were mostly half-hearted Spectrum ports. Despite its brief popularity, the MSX was ultimately undone by a lack of coherent business.

BBC MICRO

Created by Acorn in conjunction with the BBC, this found its way into nearly every school and became a part of every kid's life as a consequence. Beyond educational software, it had one or two classics to call its own, notably *Elite*. The Micro's downfall is that it didn't manage to get into many homes. Its status as an educational machine just wasn't cool enough, though it can take credit for training a generation of programmers.







» [C64] The graphics on display in *Creatures 2* showed what the Commodore 64 was capable of in the hands of a talented development team.

game streamed in from the tape drive, is one of the best compositions of the 8-bit age, completely divorced of association from any specific game. And it didn't stop there. A demo scene quickly sprang up around the SID within the lifetime of the C64, encouraging budding electronic musicians to create their own tracks and enter them into competitions in computing magazines of the time. Into the Nineties, the strength and personality of the SID sound led the C64 to become one of the most prominent features of the burgeoning chiptune movement. And the humble Commodore chip even found its way into popular culture as chart musicians sampled old game tunes or even created their own new tracks on custom-built SID synthesizers.

So there you have it. The Commodore 64's incredible SID chip was responsible for some of the best-sounding games of the 8-bit age and was so good that it has outlived its host machine and even an association with gaming altogether. 30 years after its creation, people are walking around listening to C64 music on their fancy Apple phones or even creating new Commodore music of their own. The Spectrum's tinny little speaker, meanwhile, is left completely forgotten.

WINNER: COMMODORE 64

A brilliant piece of hardware design led to some of the most memorable videogame tunes of the Eighties and was arguably responsible for a whole new genre of music. There's just no beating the sound of a C64.

★ DEVELOPMENT

You don't need to pry open the casings of either computer to see that the Commodore 64 was the technically superior piece of hardware. But does that mean that it was the best of the two to develop for? Not necessarily. Ste Pickford explains his reasons why not…

"Once I started working at a large development studio, making Spectrum and C64 games together in the same open-plan office, the playground argument carried on but with an added technical dimension. The hardware sprites and scrolling of the C64 meant that it was possible, without that much skill or talent, to get a sprite moving on a scrolling background, and as a consequence there were a lot of rubbish C64 programmers about back then. There were plenty of amazing C64 programming geniuses as well, but it was a mixed bag. The Spectrum's less-helpful hardware – more or less just a processor and some oddly laid-out VRAM – meant that to even get a sprite moving around on the screen you had to be a pretty decent programmer, so as a consequence all the Spectrum guys were sharp and clever, or they wouldn't have got the job. This turned the platform argument into one about good programmers versus bad programmers, with jokes about C64 games with panels on the right-hand side of the screen because the programmers couldn't handle the MSB."

Have a look at a few screenshots and it's easy to see what Pickford is getting at. In the wrong hands, the C64 produced some truly horrifying results. Take US Gold's conversion of *Street Fighter II*, for example. The mess of coloured blobs seemingly thrown on top of each other made it look as though the C64 had thrown up all of the contents of its metaphorical stomach at once, while the buggy, haphazard gameplay certainly lends credence to the idea that the low barrier to entry for C64 development attracted technically unskilled talent.

Yet the opposite is also true. Match up talented coders and artists with the power of the C64 and

the results were spectacular. Masterpieces – and we mean *masterpieces* – like *International Karate* or *Maniac Mansion* ran brilliantly and looked more attractive than just about anything else out there. Including, it could be argued, anything on consoles like the NES or Master System. And towards the end of the C64's life, a new wave of games, like the unbelievably pretty *Creatures 2*, demonstrated just how far the system could be pushed in the right hands.

"I prefer the C64 for coding because it had lots of hardware to play with and produced silky smooth gaming," says Mike Dailly. "The Speccy was a great but simple machine to start learning with, but the C64 was the one you really wanted; lots of RAM, lots of toys, and great games, which sounded amazing."

That's not to say that the Spectrum couldn't be made to do unexpected things, though. Far from it. As Ste Pickford suggests, the restrictions of the Spectrum hardware – which was arguably designed more as a hobbyist's computer than one intended for mass-produced, commercial software – forced developers to be more creative and led them to explore technical avenues unnecessary on other platforms. Another Pickford, Ste's brother John, clarifies: "The C64 was clearly more capable graphically and better designed as a videogames machine. From a coding point of view, the Spectrum was simpler and the lack of any hardware-assisted sprites or scrolling meant you had to get creative and work out how to do those things in software with very limited CPU power. By the time you've worked out how to drag a sprite across the screen you've learned a hell of a lot compared to doing the same on the 64. So yeah, I guess the 64 was the better machine, but I'm glad I learned my trade on the Spectrum."

Both Pickfords touch on an extremely important point. Since the Spectrum's limited hardware forced coders to get creative, the system was the best teacher you could hope for and made geniuses out of an entire nation of bedroom programmers. The Spectrum, more so than any other system, is the crucible of the British games industry, and without it such great UK studios as Rare, Blitz or Codemasters may never have existed.

WINNER: ZX SPECTRUM

Ease of development may be considered a must in the modern age, but in the formative years of the games industry it was the foibles of the primitive Spectrum that sorted the wheat from the chaff and allowed great programmers to rise to the top. Its legacy – the UK games industry of 2012 – cannot be overlooked.

* SUPPORT

How important is support to the success of a games system? It's easy to overlook this factor, but without the support of games developers, a console or computer is just an expensive slab of plastic that competes with your TV for all the dust in the room.

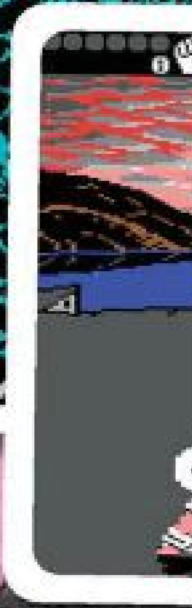
Both the Commodore 64 and the Spectrum enjoyed incredible support from game developers, but in vastly different ways. And the key differentiator between the two should be obvious to anyone who was paying attention: the Spectrum had incredible British support, whereas the Commodore 64 was a truly international computer.

Perhaps this was inevitable. Sinclair was a relatively tiny UK-based company that started off selling kit-built computers by mail order and never really progressed too far beyond those humble origins. Commodore, or Commodore Business Machines, to give it its full title, was





» [Spectrum] *Head Over Heels* started out as a Spectrum game and therefore suffered graphically in comparison to the C64's own hits when it was ported.

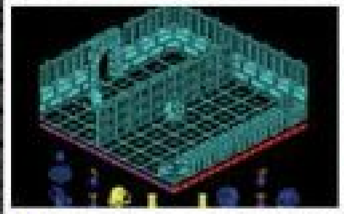


THE 5 MOST IMPORTANT SPECTRUM GAMES

JET SET WILLY

Made by a 17-year-old rockstar programmer, about a millionaire miner with a hangover, and so broken it couldn't be completed without cheat codes, *Jet Set Willy* is the prototypical Spectrum game. An experience like this could only have been made in the Eighties and on the Speccy.





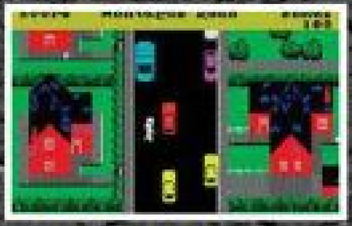
HEAD OVER HEELS

This ingenious adventure game combined more wacky British humour with a unique gameplay concept that has yet to be bettered. *Head Over Heels* proves that imagination and talent count so much more than beefy system specs.

SKOOL DAZE

A game without a genre, *Skool Daze* took a setting that almost every Spectrum owner must have loathed and gave them the power to make school fun. This was a game all about play for the sake of play and another example of the free imagination made possible by bedroom programming.



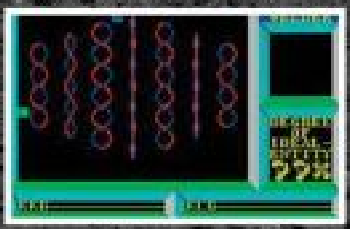


TRASHMAN

Many games put the player in control of an aspirational hero – soldier, cop, ninja or sportsman – but on the Spectrum it seemed like anyone could be a hero – even a binman. *Trashman* did little to sex up the profession, though you could find an old Speccy in the bin if you were lucky.

DEUS EX MACHINA

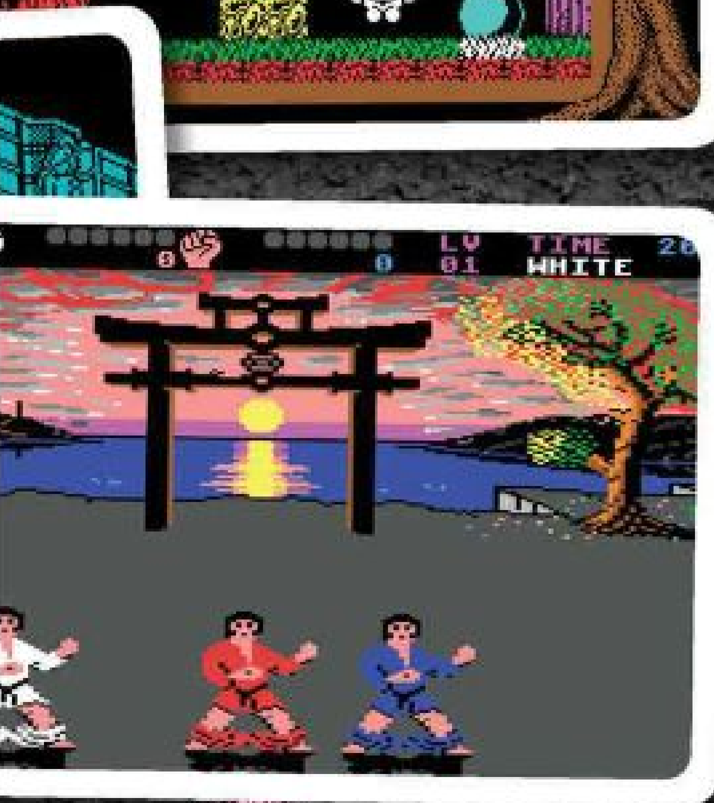
This adventure got around the limitations of the hardware by including a separate soundtrack tape, featuring voiceover from Jon Pertwee, Frankie Howard and Ian Dury. A sequel is in the works, featuring the vocal talents of Sir Christopher Lee.







» [C64] The *Dizzy* series is one of many 8-bit franchises with roots on both systems, and it's one that survives today through the recent iOS revival.



a titan by comparison. The American company easily rivalled its contemporaries like Apple or Atari for its deep pockets, marketing clout and vision. Its combined resources and ambition made it virtually unstoppable, at least for a few years anyway.

Commodore really had its act together when it came to support of the C64, particularly for games. The Commodore-branded 'Datasette' recorder allowed software to load much more reliably than the pernickety Spectrum, meaning there was no fiddling around with volume controls or sacrificing a pet to Satan in the vain hope of getting a game to load here. Likewise, the 1541 disk drive, for those who could afford one, brought even greater usability and was particularly instrumental in the American home computer boom, leading to major players like Electronic Arts and LucasFilm Games lending their considerable weight to the C64 library.

It's possible that the Spectrum could have enjoyed such support too, but Sinclair's head, Sir Clive Sinclair, appeared to have little interest in supporting videogames, despite the boost they obviously gave the computing business, and the company showed little sign of attempting to get games developers on board. Only the huge UK installed base, created by the Spectrum's brilliantly affordable price point, encouraged independent UK games publishers to get involved with the system. But the support of the burgeoning American games industry was severely lacking.

To get some idea of the non-impact the Spectrum had in the US, **Retro Gamer** spoke to Shane R Monroe, host of Retro Gaming Radio, who was a young man during the C64's heyday. "Commodore had a huge presence everywhere – you couldn't turn around without running into a Commodore display," Monroe says of the Eighties American retail landscape. "Unlike the Amiga, which got zero advertising, the C64 was in every department store – including then-popular shopping destinations like JCPenney and Sears. I believe, for a period of time, even Toys R Us carried Commodore product. During the holidays, you couldn't turn the channel without landing on a C64 ad, complete with the Bach theme that became a household tune. The USA is all about what's on TV, even more then than now. Without the internet to guide people, TV is what you had.

"The Spectrum simply wasn't to be found. No demo machines. No TV commercials. No word of mouth. The elitist fights then were 'C64 vs Atari' or 'C64 vs Apple'. Spectrum wasn't even part of the equation. Between Commodore's rampant advertising, Atari's hardcore name recognition and gaming background, and Apple's incessant product dumping into the school system, there just wasn't room for the Speccy."

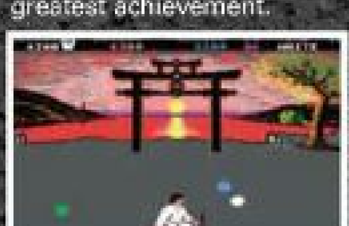
UK-based **Retro Gamer** readers might think that the US fate of the Spectrum was irrelevant to

> "The Spectrum had incredible British support, whereas the C64 was an international computer"

The 5 Most Important Commodore 64 Games

International Karate

***IK* features everything** that's great about C64 gaming. Stunning visuals, a brilliant soundtrack and gameplay so fun you could play it over and over again. That Archer Maclean made a fighting game work with a stick and one button is *IK*'s greatest achievement.





Mayhem In Monsterland

Made near the end of the C64's life, *Mayhem In Monsterland* exploded with colour, looking as good as a Japanese platform game and playing equally well. If anyone accuses the C64 of featuring Lego-style visuals, just show them this.

Maniac Mansion

Bedroom programming is all well and good, but look what happened when huge companies got their hands on the C64! *Maniac Mansion* was filled with ambitious design that even its creators failed to match. It's also the debut of SCUMM, the engine that redefined adventures.





Little Computer People

One of the most ingenious uses of the floppy disk, this David Crane production gave you a house on a disk, and a little man who seemed to live inside your TV. The level of illusion on display is nothing short of remarkable for the time and paved the way for later works like *The Sims*.

Alter Ego

Made by a psychologist rather than a game designer, *Alter Ego* saw you play out an entire life from conception to death – whether by natural causes or otherwise. Its series of moral dilemmas and philosophical questions treated the player like a mature adult.







» [C64] *Cyberdyne Warrior* is another game that pushed the C64 graphically, including using colour-swapping tricks to fool the eye into perceiving new colours.



them, but it couldn't have been more important. While the Commodore 64 received excellent UK support and conversions of most of the significant Spectrum, Amstrad or BBC games, its US origins meant that it got a whole wealth of other classics that its rival systems missed out on. The Spectrum's catalogue of software, by comparison, seemed half-empty.

WINNER: COMMODORE 64

Officially supported two years longer than the Spectrum, showered with superior hardware, and attracting the cream of the US games industry, the Commodore 64 had the best support you could ever realistically hope for.

era and made the Eighties a fantastic time to get into videogames.

We could go on and on about the best games on each computer, and have done elsewhere in this feature, but for now let's allow the experts to have their say.

"For me, this is an easy question with an easy answer," says Sensible Software's Jon Hare. "Not only was the Commodore 64 a better machine in nearly all respects, it was also much better for our games. *Parallax, Wizball, Shoot-'Em-Up Construction Kit, MicroProse Soccer* and *International 3D Tennis*... So C64 all the way for me." Hare may be a little biased, sure, but there's no denying that is one great list of games.

> "REAL GAMERS JUST WANT DECENT GAMES TO PLAY, REGARDLESS OF WHAT THEY PLAY THEM ON"



★ GAMES

Retro Gamer interviewed a fair few game developers in the hope of settling this age-old argument, but some simply refused to pick sides. Much to our surprise, one of the most vehement fence-sitters was none other than Gary Penn, ex-editor of Commodore 64 magazine Zzap!64. "There were some groundbreaking, seminal works on both Spectrum and C64," says the level-headed Penn. "It'd be ignorant to ignore that fact. Real gamers just want decent games to play, regardless of what they play them on."

Well, if it's great games you're after then anyone reading this magazine knows that the C64 and Spectrum could match each other blow-for-blow. For every *Wizball* there's a *Sabre Wulf*; for every *Skool Daze* a *Paradroid*. Each system has its fair share of titles that defined the 8-bit

Charles Cecil, meanwhile, credits a single game for swinging his vote: "With the release of *Impossible Mission* in 1984, a magnificently impressive game, the Commodore 64 finally surged ahead, remaining forever out of reach of the Spectrum."

Vocal support for the Speccy's catalogue of games is harder to come by, but Ste Pickford chimes in to remind us of some greats. "In the end, I think the Spectrum wins because ultimately the difficult hardware – the lack of a 'path of least resistance' to scrolling-background sprite games – meant that there was more creativity and originality in the Spectrum software catalogue," he says. "We got more odd and unusual games like *Knight Lore, Tau Ceti, Ant Attack, Avalon, TLL* and *Deus Ex Machina*, even if we did miss out on smooth, 60fps scrolling shoot-'em-ups."

Pickford is certainly right about the Spectrum's quirkiness. No other games machine outside

Japan can list such a bonkers line-up of software. Millionaire miners, handbag-carrying dogs, scrounging binmen and criminal babies were perfectly commonplace on the Spectrum, and gave the system a weird British feeling that was part surrealist comedy, part acid trip. You can't not love a system for that. But, well...

A lot of those quirky games were eventually ported to the Commodore 64, which also happened to have its fair share of unique classics on top. While the Spectrum was defined by its quirky British games, some fine arcade conversions and the tremendous support of Ultimate Play The Game, the C64 had a catalogue that grew up and evolved alongside the machine. With each passing year, its greatest developers outdid themselves to produce ever more brilliant experiences – particularly in the crucial US market. Back when Electronic Arts was best known for its designer-driven creations, it churned out classic after classic – *Racing Destruction Set*, *M.U.L.E*, *The Bard's Tale* and *Legacy Of The Ancients*, to name just a few. Then there's LucasFilm Games and, particularly, *Maniac Mansion*, a game so good it practically spawned a genre and paved the way for incredible works like *The Secret Of Monkey Island*. Over in the UK, the likes of System 3 and Sensible Software made the C64 sing with *International Karate*, *Impossible Mission* and *Wizball*, among others. Even in the computer's twilight years, new developers pushed the system further. Could you have imagined games like *Creatures* or *Mayhem In Monsterland* running on the C64 back in 1982? You couldn't, but the hardware was the same. The only thing that changed was the industry's understanding of it.

The Commodore 64 remained in production for a staggering 12 years and was constantly supported by an ever-evolving catalogue of games. Only the demise of Commodore in 1994 brought the system to a halt. Who knows where it would have gone if the company had survived. The Spectrum, meanwhile, was discontinued by 1992, though its shelf life, and the breadth of its software, arguably dried up long before that.

WINNER: COMMODORE 64

While both systems matched each other for some time, the C64 just about wins out due to sheer lastability. It kept going and going for years, outlasting its rival and improving on itself with every release. The C64's vast catalogue of classics narrowly gives it the edge.

✱ CONCLUSION

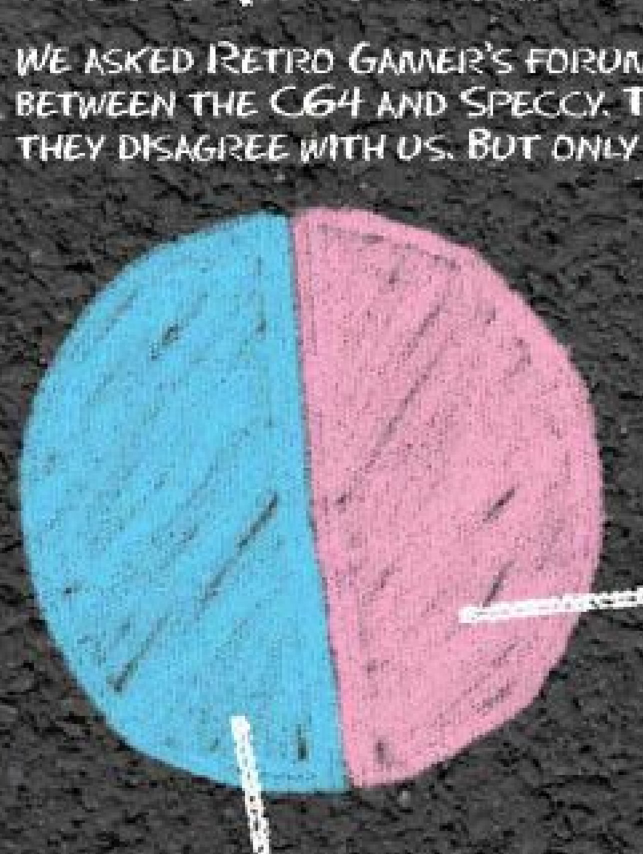
Obviously the most advanced and powerful piece of hardware, you'd think that the Commodore 64 would stamp all over the Spectrum, but, certainly in the UK, the competition was no walk in the park. The Speccy's affordability, utterly crazy and ultimately endearing catalogue of games, and its importance to the UK games industry make it a supremely special system. But the Commodore 64 is just that little bit superior.

With the power of Commodore behind it, and the backing of the international games industry, the C64 enjoyed a long life with well over a decade's worth of incredible games produced. The technical prowess of the machine, as well as the added flexibility of the disk drive, led to the creation of some amazing games for their time, and while the Pickford brothers may be right that the C64 encouraged lazy developers, it also attracted many of the best. Not to mention the best musicians, who tripped over themselves to play with the SID chip and create musical masterpieces that have taken on a life of their own outside the games.

Speccy fans – don't get your knickers in a twist. We love the rubber-keyed wunderkind as much as you. But the simple fact is that the Commodore 64 is a greater machine, with bigger, arguably more important games. Especially since they're so much easier to load and don't get confused by more than one colour! The Commodore 64 is the best 8-bit computer. Argument over.

READERS' VIEW

WE ASKED RETRO GAMER'S FORUM TO CHOOSE BETWEEN THE C64 AND SPECCY. TURNS OUT THEY DISAGREE WITH US. BUT ONLY JUST...



"C64 purely because your character didn't become the same colour as whatever background you were passing over."
MOOTOWN

"With the C64, once you get past the better-quality shooters there's not a lot there to match the Spectrum's impressive array of arcade adventures and platformers. The Spectrum also canes the C64 for text adventures, which is important for me. The fact that Ultimate's output on the Speccy utterly trounces what they put out on the C64 is probably enough reason on its own to relegate the C64 to second place."
CRUNCHY

"The Spectrum was better. Say what you want about SID chips and 'better' graphics, but the Spectrum definitely had less-blocky graphics, and the sound was awesome on the 128K machines. And better games for the most part, too."
SMURPH

"I voted Speccy. In all honesty, it's because I owned one, but I will say, when it came to going to friends' houses, it was the Speccy that seemed to have the 'jaw drop' moments that made others jealous. Best I remember was when I helped a friend fire up his first computer, which was a second-hand Spectrum +2. I loaded up *Starstrike II* and even the C64 boys were drooling!"
THULSADOOM



"**Elite kick-started my career so it meant a huge amount to me at the time, but it was also a great time anyway.** Both Ian and I really got into the challenge, and the fact that we were writing it between college work – both of us were at Jesus College, Cambridge – made it especially enjoyable and not at all a grind. The excitement of doing something we knew hadn't been done before was fantastic, and we became quite selective about who we showed it to in case they did it too. I have always looked back on that time with huge fondness, as we were very lucky to be part of this industry at the very start."

David Braben

David Braben



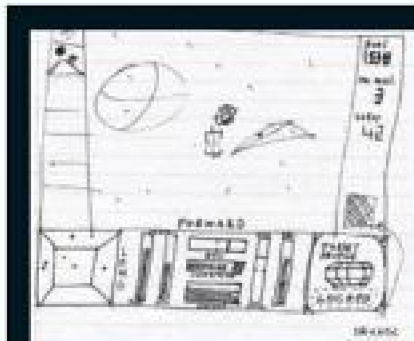
A Cambridge University student, Braben juggled his natural sciences degree with programming, finishing the game pre-graduation – a major achievement all round.

Acornsoft

ACORNSOFT

"Thorn EMI wanted a score, three lives, and a play time of 'around ten minutes a go'. Thankfully we went with Acornsoft instead," says David.

Ian Bell



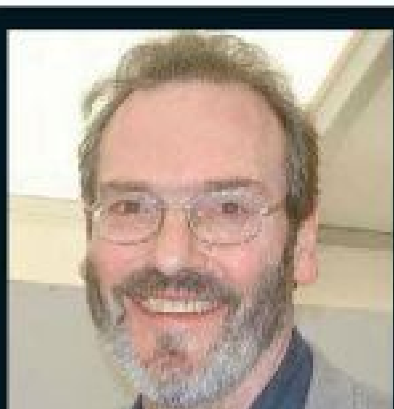
As a fellow Cambridge student, Bell coded around studying mathematics. Both he and Braben firmly believed in proving that 3D was possible. Here is one of Bell's sketches.

Thorn EMI

THORN EMI

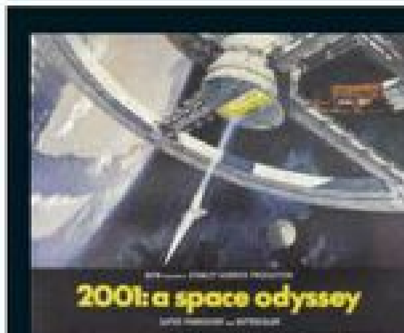
"The best part of the wider story, with hindsight at least, was that Thorn EMI turned down the game as it was 'too different'," says David.

Robert Holdstock



The author of the novella, *The Dark Wheel*, that was included with *Elite*. He saw it as a good chance to get back into sci-fi writing and recalled how fast the game was.

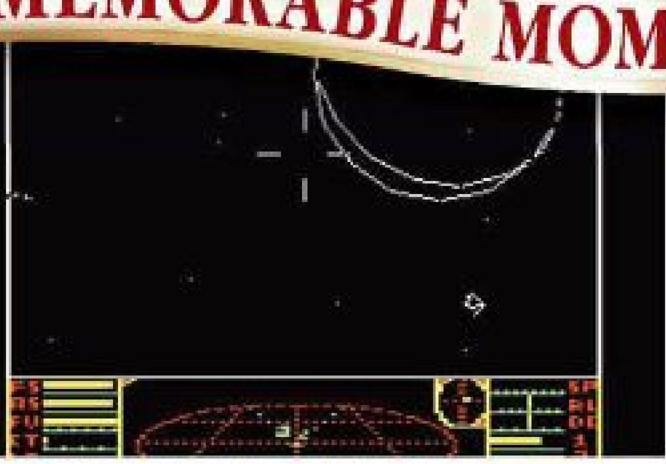
Sci-fi



Braben and Bell loved science fiction, and *Elite* was very much influenced by the *Traveller* RPG as well as *The Hitchhiker's Guide To The Galaxy*, *2001: A Space Odyssey* and, of course, *Star Wars*.

MEMORABLE MOMENTS

WHY IT'S A CLASSIC



It's still an epic experience

Elite was groundbreaking. In taking gaming into the third dimension, David Braben and Ian Bell created a truly compelling masterpiece. Despite taking up just 22K of code, it reached into the minds of players, allowed their imaginations to run riot and inspired many games that resonate today; not for nothing did the producer of *Grand Theft Auto* dub it "*Elite* in the city". For all of that, David remains rather modest: "It's not really for me to say why *Elite* is a classic game! I suppose it has stood the test of time and is still fondly remembered, including by me, all these years later."

BEST MOVE?



Prepare to fire

With *Elite*, it was possible to do all manner of cool things, spending hours flying around in space, exploring the universe and all of its fascinations. "But there's not really a move in the *Tekken* sense," says David. "It is satisfying firing a missile at point blank into a ship, though, by flying straight at it and launching the missile at the last moment. That way it doesn't get ECMed [electronic counter-measures, which causes all primed missiles in range to auto-detonate] too. If you aim slightly above it, then you don't slam into any barrels that are launched into the debris."

STANDOUT MOMENT?



Space docking

As you fly from planet to planet and trade in goods, steal and try to bat away pirates, you soon realise that there is no particular aim with *Elite* other than trying to achieve the top rank. And yet that doesn't mean there aren't any standout moments, some of them just borne out of simple exhaustion and the need to get some rest, as David explains: "The standout moment for me is probably the relief when you dock at an 'anarchy' after a tricky, sweaty-palms journey, and you finally get to save. It felt like a real achievement."

MOST MEANINGFUL PART?



Wow! 3D!

There is no doubting that *Elite* was a masterpiece of programming. The open-ended nature and the wireframe graphics ensured its place in the heart of everyone who played it, and made it a reference point for many developers since. It is difficult not to admire the advanced game engine and all of its nuances and complexity. Those spaceships certainly stick in David's mind. "The 3D spaceships, especially the Cobra, mean a lot to me. A lot of love went into them, but also, it is what everyone remembers about the game. I suppose the way the worlds were generated makes it very meaningful too."

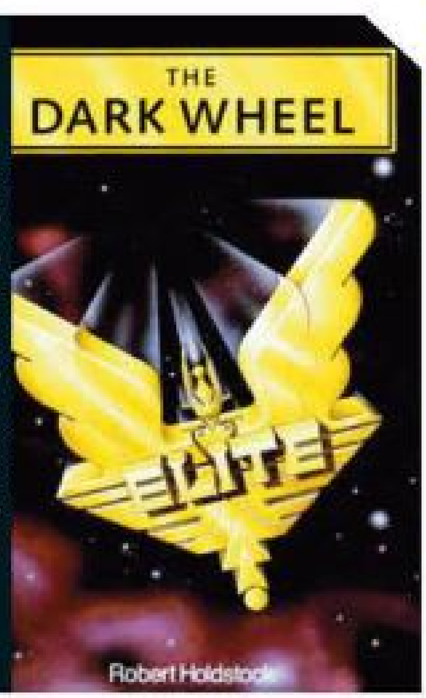
BEST SHIP ENHANCEMENT?



Galactic Hyperspace!

Braben's choice of ship enhancement is very clear. "Galactic Hyperspace! It was best in the sense it took about six bytes to implement, including the text for the name. It took quite a time to make room for six extra bytes," he says. Certainly, though, there were many ways to enhance a ship, usually coming as pods. Fuel pods, salvage pods… They all combined to make your craft better able to combat the enemy in missions and achieve your aim as the best navigator in the whole damn universe. Without them, you'd be stardust for sure.

BEST PART OF THE STORY?



What? No asteroids?

"Probably the best part of the in-game story was why the first few thousand copies of the game didn't have very many asteroids," says David. "It was all because of the novella by the excellent but now sadly deceased Rob Holdstock. He included a mention of people called 'rock hermits' – people who lived on asteroids, mining them. We also put in a few other rare events, but these were really hard to test, so we temporarily turned the asteroid creation rate right down to test these other features. Due to an almighty mess-up, it was the version with few asteroids that went to duplication."



IN THE KNOW

- **PLATFORM:** BBC MICRO, ACORN ELECTRON, VARIOUS PORTS
- **PUBLISHER:** ACORNSOFT
- **DEVELOPER:** DAVID BRABEN AND IAN BELL
- **RELEASED:** 1984
- **GENRE:** SPACE TRADING

What the press said… ages ago



Beebug, Volume 3, Issue 6

"Thoughts of an over-hyped third-rate nightmare started to loom close as, with a degree of trepidation, I loaded *Elite*. That was just over a week ago, and I'm now convinced that Acornsoft have just released the best game ever for the Beeb."

What we think

Elite inspired a host of programmers, and many of the greatest developers forged a career in gaming because of it. Although it influenced British programming more than the rest of the world, it showed the potential of gaming, made the BBC Micro a viable gaming platform and became the definitive Classic Game.



SEGA GA





It may have been outsold by the Game Boy, but the Game Gear can in no way be considered a flop – it survived for seven years and over 11 million systems were sold. Matt Gander hopes to move your Game Gear knowledge up a gear



» **Manufacturer:** Sega » **Models:** Sega/Majesco » **Launched:** 1990 (Japan), 1991 (US, Europe) » **Country of Origin:** Japan

ME GEAR







» The smaller boxes and nicer art of Japanese Game Gear games can be desirable.





WHY IT'S COLLECTABLE

Released in Japan in 1990 and discontinued in 1997, with the last game being the US-only *Jurassic Park: The Lost World*, the Game Gear certainly lived a long life. It wasn't all smooth sailing for the system, though, with many Japanese developers and publishers choosing to support the incredibly popular Game Boy instead, meaning the Game Gear's release schedule was staggered at best.

In Europe only 196 games were released for the battery-draining device. The majority of these were released in 1993 and 1994 when the system was in its prime, but as you can imagine, with only a relatively small number of games released for it, the system never received the same press coverage as the Master System or Mega Drive. Most magazines of the era only devoted two or three pages to it per issue, as a typical month saw a couple of new releases at most. The closest it ever got to a dedicated magazine was a pull-out section titled 'G-Force' in the short-lived *Sega Master Force*.

Sega did a good job of keeping the Game Gear in the public's eye by releasing five exclusive *Sonic* titles: *Sonic Triple Trouble*, *Sonic Labyrinth*, *Sonic Drift*, *Sonic Blast* and the spin-off *Tails Adventure*. There was a steady slew of high-quality Disney titles too, while after Master System support fizzled out more Mega Drive conversions appeared like *Ristar*, *Earthworm Jim* and *Dynamite Headdy*.

Codemasters arrived late to the Game Gear party, but it showed up with a bang, bringing *Micro Machines*, *Dizzy*, *CJ Elephant* and more to the handheld. Acclaim, which published under the Flying Edge label early on in the Game Gear's life, also offered heavy support and supplied the system with its more mature titles, such as *Mortal Kombat*, *Alien 3*, *Judge Dredd* and *RoboCop Versus The Terminator*.

Over in the US, 233 titles were released, and the list of games that never made it to Europe often raises eyebrows. We're not just talking about US sports titles here, but rather the big-name likes of *Mega Man*, *Shining Force*, *Star Trek*, *Pinball Dreams*, *Choplifter III*, *Jungle Strike* and a wealth of Marvel comic book tie-ins. Oddly, although three different *Pac-Man* games were released on the format, not one of them made it to Europe.

Purely by coincidence, 196 is also the number of games released in Japan. Sega's homeland didn't just have its own exclusive titles, including dozens of RPGs like *Magic Knight Rayearth* and numerous *Puyo Puyo* games, but also a range of different coloured systems. The most desirable of these is a white Game Gear, which came with a matching TV tuner and stylish white carry case. Europe was never treated to any coloured systems other than the original black model, while America received just one: a fetching blue number, which came bundled not with *Sonic*, as you may have expected, but with *The Lion King*.

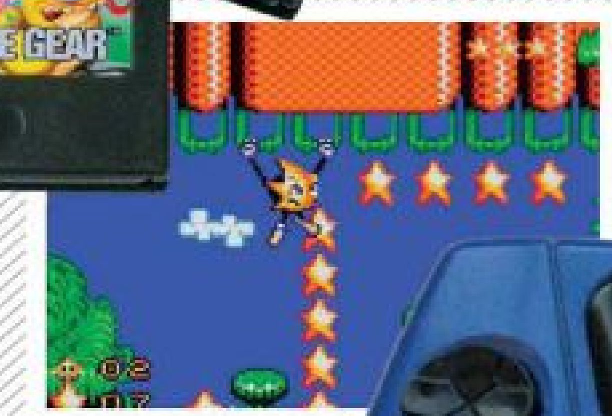
Ultimately, it's the Game Gear's region-free nature that is the biggest draw to collectors, allowing instant access to the many games denied a European release. Compared to some systems it's an inexpensive format to start collecting – the majority of titles





» Understandably, boxed games in good condition are more collectable, with some later titles, produced in limited numbers, being extremely rare.

» Unboxed games can be very cheap to acquire today, making building a library fairly economical.







DID YOU KNOW?

■ The Japan-only *Kuni-Chan's Game Paradise* was set within the walls of *Castle Of Illusion* and featured characters from Mickey's classic romp, including Mizrabel the witch. Mini-games featured here were later reused for the Europe-only *Sega Game Pack 4-In-1*, including a tennis game in which Sonic is the umpire. It was also the first Game Gear game to feature the blue blur, beating *Sonic The Hedgehog* to Japanese shop shelves by just over a month.

will only set you back a few pounds each if they're unboxed. If you're going to go for a full set of boxed titles, though, you'll need both time and money, as some of the later European releases are incredibly scarce, with copies appearing on eBay only once or twice a year.

As is usually the case, Japanese box art is more alluring than the Western efforts, and games came in much smaller boxes. Later US releases were branded with garish purple borders, but this fortunately wasn't the case for Europe. Indeed, it would seem that Sega had no protocols for third-party packaging other than the fact that the box had to display the Sega Game Gear logo somewhere. This allowed for some incredibly diverse packaging.

The Game Boy may have savagely beaten the Game Gear when it came to sales figures, but Sega's system did have a bootleg scene that was a whole lot more interesting. Although Game Boy bootleg cartridges did exist, they would only contain a handful of Game Boy games and sometimes hacks of existing ones. Game Gear bootleg cartridges, on the other hand, would often include Master System and Japanese SG/Sega Mark III games, thanks to the fact that the Game Gear had very similar hardware. The bootleggers of the day must have had their fingers on the pulse, as they often chose to pirate Master System games that weren't available on the Game Gear, such as *Michael Jackson's Moonwalker*, *Altered Beast*, *After Burner* and *Alex Kidd In Miracle World*. Cartridges featuring Korean games have also been found over the years, some of which contain a clone of *Super Mario Bros* known as *Super Boy II*. Don't get too excited, though – the screen moves so erratically that it's not much fun to play.

There aren't many systems that get a second chance, but in 2001 the Game Gear managed to get just that. Majesco released a new model in the US alongside a dozen re-released games, including *Pac-Man*, *Sonic The Hedgehog 2*, *Sonic Chaos*, *The Lion King* and *The Jungle Book*. The re-released games are very easy to find, often appearing on eBay still sealed in shrinkwrap. In fact, many of these were spotted in pound shops up and down UK high streets just a few years ago. The newer model of the hardware is somewhat tougher to find but is worth the effort to track down; although the overall build quality is poorer than that of the original, the screen is brighter and less prone to blurring. Majesco systems are easy to spot due to having a darker casing and monochrome Game Gear logo on the left of the screen instead of a coloured one.

Never mind tracking down a Majesco system – fully working Game Gears of any description can be difficult to find. The majority of systems are now suffering from screen and sound problems due to the capacitors inside dying. Fortunately, spare capacitors are cheap to buy and can be replaced relatively easily using a soldering iron. If your soldering skills are lacking, then we can't think of a better reason to master the art than to revive an old Game Gear and play the many 8-bit hits it has to offer.

THE PERIPHERALS



» What's inside? Not much – just the device itself and a warranty card. Instructions for use are printed on the reverse of the box.



» It may look bulky, but it's light enough to barely increase the weight of the handheld once plugged in.



MASTER GEAR

By purchasing one of these, the Game Gear's library of games doubled in an instant – it allowed the Master System's back catalogue to be played. If you already owned a Master System prior to purchasing a Game Gear, this was pretty much an essential accessory, as the games you already owned could now be played while on the move.

Even if you didn't own a Master System, it was still essential, as many of the console's best games never made it to the Game Gear. The entire *Alex Kidd* series, *Rampage*, *Asterix*, *Psycho Fox*, *Wonder Boy II*, *Ghostbusters*... We could go on for a long time yet.

It's easy to forget how appealing the Master Gear would have been for American Game Gear owners too. In the US, the Master System was killed off in 1991, with the last game being *Sonic The Hedgehog*. The existence of this peripheral allowed them to play the countless Master System games that were unreleased in the US.

A few games were rendered unplayable by text being too hard to read on the Game Gear's smaller screen, and in some shoot-'em-ups bullets became too hard to see. Sadly, the former issue pretty much ruled out playing any of the Master System's RPGs on the Game Gear. *Phantasy Star* was a total no go, as it had compatibility issues that stopped certain sprites from appearing. *OutRun* was another game that suffered from sprites vanishing, but that wasn't too much of a blow as the Game Gear had its own rendition of Sega's classic coin-op.

A few Sega magazines featured a boxout during their Master System reviews where they'd report how the game in question played using the convertor. In one instance, *Sega Pro* claimed that the Master System version of the *Castlevania*-alike *Master Of Darkness* played better using it.

Originally retailing at around £14.99 (half the price of most Game Gear games), it was a very inexpensive purchase and consequently now very common to find. A few different models exist – Sega released the Master Gear and Master Gear 2, but there was little to no difference between the two. It has since been reported, though, that the Master Gear 2 works perfectly on the newer Majesco Game Gear, whereas the original Master Gear refuses to.

The Beeshu Gear Master third-party convertor had the advantage of playing Codemasters' larger-shaped Game Gear cartridges without problems, while the Nuby convertor had a cartridge slot that faced horizontally rather than vertically. It was a bizarre design choice, as it didn't take much more than a little knock to dislodge a cartridge. Sega's official convertor was the clear winner in terms of design – it had a large plastic screw on the back that held the device firmly in place.

A Game Gear convertor for the Mega Drive – similar to the SNES's Super Game Boy – was reportedly in development early in the Game Gear's life. It was never officially spoken of, however, so chances are the story was little more than wishful thinking from the Nineties gaming press.

...AND THE REST



01. TV Tuner

When the analogue signals are switched off, this device won't be quite as useless as you may think – there's an AV port on the top that, via an extra cable, can be used to feed other inputs into the Game Gear. Using it as a monitor to play another console is a novelty, if nothing else. The aerial was comically long, with a tip prone to breaking. It also came with a stand to hold the Game Gear upright. With no TV tuner available for either the Game Boy or Lynx, a lot of Game Gears were sold on the back of this peripheral's existence. Until a few years ago, they were still worth quite a bit of money.

02. Master Link

This virtually unheard of piece of cabling allowed the use of Master System and Mega Drive joypads. It could also be used by a second person when playing a two-player Master System game via the Master Gear. The unnecessary screw holes on the joypad port suggest it was made using 'off the shelf' parts.

03. Car Adaptor

If this was released in this day and age of zealous health and safety warnings, it would no doubt warn not to play on your Game Gear while driving. Back in the Nineties, though, it was seemingly fine to do that. We joke, of course.

04. Cleaning Gear

Moisture from your breath could apparently cause corrosion on cartridge contacts over time. A much safer way to clean your Game Gear was by using this card, which fit neatly into the cartridge slot. The plastic casing opened up to reveal extra cleaning pads. Cotton buds and cleaning fluid worked just as well, but this did slot into the Game Gear nicely.

05. Action Replay/ Game Genie

Codemasters' Game Genie cheat device was huge, but the similar Action Replay was a whole lot smaller, making it easier to carry while out and about. The Game Genie did have a handy compartment to store the cheat code book, mind you.

06. Super Wide Gear

Designed to magnify the Game Gear's screen, the official Super Wide Gear could also be used in conjunction with the TV tuner. When buying, it's a good idea to check for scratches and marks. Unofficial models exist, but they don't fit the Game Gear as snugly as the Wide Gear.

07. Carry Case

This official hold-all really did hold it all – nine games, the handheld itself, PSU, battery pack and the Wide Gear. If you wanted to take your collection with you, this is what you needed. Good luck trying to fit third-party peripherals, though – the compartments were designed for the official products.

TOP FIVE GAMES TO PLAY

Sonic The Hedgehog

■ This set the bar high for Game Gear conversions. Rather than simply port it, Sega adapted the game to the smaller screen and redrew Sonic, giving him the correct colour trainers, unlike the brown ones in the SMS version.

Shinobi

■ Our love for this game was shown in issue 92 of Retro Gamer. Levels could be tackled in any order you fancy, and the fact that some were easier to finish depending on which of the five ninjas you picked added extra replay value.



Castle Of Illusion Starring Mickey Mouse

■ Until *Sonic* showed up, this was the Game Gear's premier platformer. It wasn't redesigned for the small screen, but you'd be crazy to turn down the chance to battle a giant chocolate bar and go swimming in a huge cup of tea.

Defenders Of Oasis

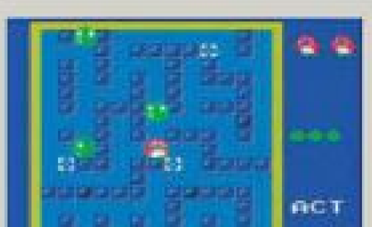
■ An RPG with an Egyptian theme, although you wouldn't be able to tell that from the box art – the main character looks like he's jumped off the stage of *Riverdance*. Battles were random and turn-based, giving it a *Final Fantasy* feel. *Crystal Warriors* is also worth a look if you're an RPG fan.

The Excellent Dizzy Collection

■ We don't know why Dizzy was dressed like a pimp on the cover, but we do know that this offered more variety than *Fantastic Dizzy* due to containing three games: *Dizzy The Adventurer*, *Panic Dizzy* and *Go! Dizzy Go!*. Codemasters even found room on the cartridge for some speech samples.



PLAY THESE NEXT



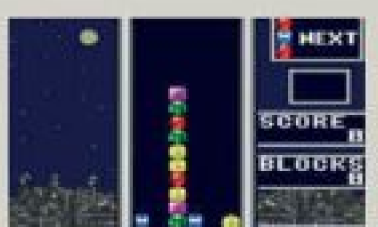
Pengo

■ This block-pushing action game was a launch title in all three territories, and like the majority of early Game Gear games, it's an incredibly common find. It may not look as pretty as the other games on this page, but when it came to addictive qualities it's very hard to beat. The Western version had different music to the Japanese version.



Streets Of Rage 2

■ The first *Streets Of Rage* was missing a character from the Master System version, leaving just Axel and Blaze. That problem was resolved here with three characters to pick from instead of two. It was slightly easier than the Mega Drive version but no less enjoyable, with faithful renditions of the 16-bit version's much-loved musical score.



Columns

■ Well, you can't claim that this puzzler didn't make the most of the Game Gear's colour screen, creating a game that would struggle on the Game Boy. An essential part of any collection as it's a puzzler that's synonymous with the system, just like *Tetris* is with the Game Boy. A little-known sequel called *Super Columns* was also released.



Wonder Boy: The Dragon's Trap

■ It's amazing how differently the *Wonder Boy* games played from one another; they're almost connected by name alone. This is often referred to as Wonder Boy's career highlight, with large, open levels, a distinct visual style and the chance to change into different creatures with their own skills.



Legend Of Illusion Starring Mickey Mouse

■ The final part of Mickey Mouse's *Illusion* series and also a Game Gear exclusive. As soon as you started it, you wanted to play it through to the end. Not to be confused with the US-only *Mickey's Ultimate Challenge*, which was a dire experience mostly made up of mini-games.

TOP FIVE IMPORT GAMES



Ronald McDonald In The Magical World

■ A solid, colourful and instantly playable platformer developed by Treasure. It's a little strange that it never saw a release outside Japan – it's not like the licence didn't hold worldwide appeal.



Gunstar Heroes

■ The system's limitations were clear – sprites flicker badly and a level from the Mega Drive version is missing – but it was still an impressive conversion. Treasure was even able to bring over some of the special effects, like the boss made of rotating cubes.

Coca-Cola Kid

■ Not only did this use the same engine as *Sonic Chaos*, but it also recycled some of the sound effects. The version that came with the Japan-only Coca-Cola Game Gear came on a red cartridge.



The Berlin Wall

■ An early single-screen platformer with much in common with *Bubble Bobble*. Possibly denied a European release due to cultural sensitivity, although Sega could have easily changed the name – it has nothing to do with Berlin at all.

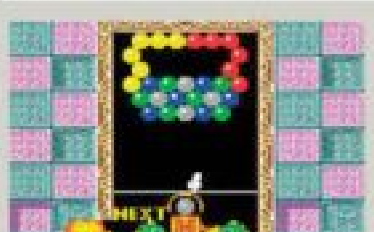


Puzzle & Action: Tant-R

■ Long before *WarioWare* there was *Tant-R*, a mini-game collection starring characters that looked suspiciously like the Bonanza Brothers. The mini-games lasted around a minute each. Great for instant gratification.

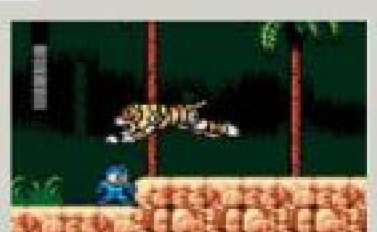


IMPORT THESE NEXT



Bust-A-Move

■ As well as the obvious benefit over the Game Boy version, which featured patterns instead of colours, the Game Gear version also had a link-lead option for two players. It was known as *Puzzle Bobble* in Japan and released as part of the Kid's Gear series – a range of simpler titles for younger gamers that came in larger boxes to the standard.



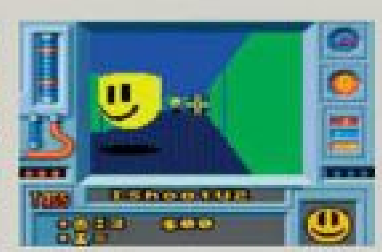
Mega Man

■ Not a conversion of the NES original but a remix of *Mega Man 4* and *Mega Man 5*. Capcom passed the porting baton over to US Gold for this one, and although it's unfairly tough in places, it was good enough to make up for the disaster that was *Strider Returns*. Worth a pretty penny, even if it's unboxed.



Shining Force: The Sword Of Hajya

■ Known as *Shining Force Gaiden 2* in Japan, this was the only Game Gear *Shining Force* to get a US release. A turn-based affair with a high number of characters on screen at once. Certain magic attacks were more powerful than in the Japanese version to make it easier for Western gamers.



Faceball 2000

■ A first-person game on the Game Gear? Believe it. Surprisingly varied, with some levels tasking you with escaping from a maze and others being more focused on combat. The main character – a floating yellow smiley face – had a rechargeable shield, beating the Master Chief to it by several years.



Sylvan Tale

■ If *Defenders Of Oasis* was the Game Gear's answer to *Final Fantasy* then this was its counterpart to *Zelda*, with a very similar visual style to *A Link To The Past* and real-time combat. We'd be lying if we said the language barrier wasn't an issue, but those familiar with the genre shouldn't struggle too much.

TOP 5 RAREST EUROPEAN GAMES

Monster Truck Wars

■ While the US version is quite common, the European version of this top-down racer from Acclaim is seldom seen. It was programmed by Gremlin and is one of its lesser-known games. Not bad, but *Super Off Road* was better.



The Smurfs Travel The World

■ The Master System version is so rare that its existence was unknown until one collector found a copy in the Czech Republic in 2000. The Game Gear version isn't quite as scarce, nor indeed as valuable, but it's still harder to find than someone who enjoyed the recent *Smurfs* movie.



Sega Game Pack 4-In-1

■ The cartridge itself isn't rare, as it was bundled with the majority of systems. Retailers were presumably flooded with second-hand copies and consequently didn't order any new boxed versions to sell, making this one hard to find.



Galaga 2

■ *Galaga '91* took its time coming to Europe. So much so that Sega had to change the name to *Galaga 2*, as it didn't make it out until 1993. *Super Space Invaders* is a cheaper and more common alternative for those looking for something similar.

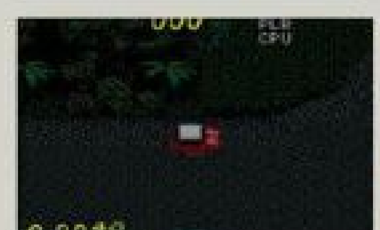


Bugs Bunny In Double Trouble

■ This platformer was released in 1996 – a whole year after the launch of the Saturn and PlayStation – and as such most people had turned their backs on the Game Gear. It was such a late release that the box art was rendered in CGI.

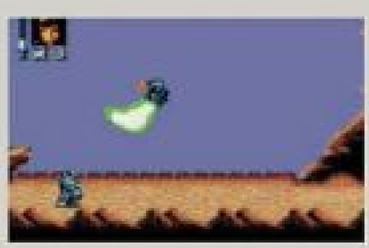


GET THESE NEXT



Power Drive

■ Like many of the games on this page, rally racer *Power Drive* was a late release for the system. It's very nice to look at, and the isometric perspective made it stand out from the likes of *OutRun*, *Chase HQ* and *Super Monaco GP*, which all used very similar scrolling techniques to one another.



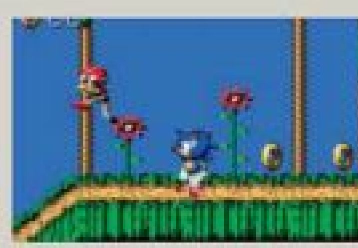
Super Star Wars: Return Of The Jedi

■ With a choice of three characters and some slick Lightsaber animations when playing as Luke, this was a surprisingly polished romp. Although the Game Gear received games based on *A New Hope* and *Return Of The Jedi*, it never saw a game based on *The Empire Strikes Back*, which is slightly odd.



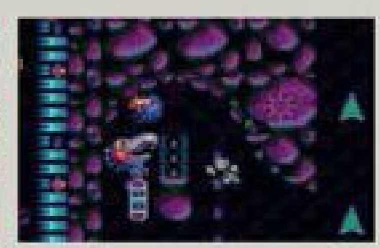
Tarzan: Lord Of The Jungle

■ The Game Boy version is easy to find, but sightings of this Game Gear edition on the collector's market are often months apart. It was one of the first games from Eurocom, which is still around today, and to be honest it really did look and play like somebody's first attempt at making a platformer.



Sonic Blast

■ Known as *G Sonic* in Japan, *Sonic Blast* had some of the best visuals the Game Gear had to offer thanks to some *Donkey Kong Country*-style computer-assisted rendering. As we all know, though, good graphics don't make a good game. The levels were woefully short and that elusive *Sonic* vibe was sorely missing.



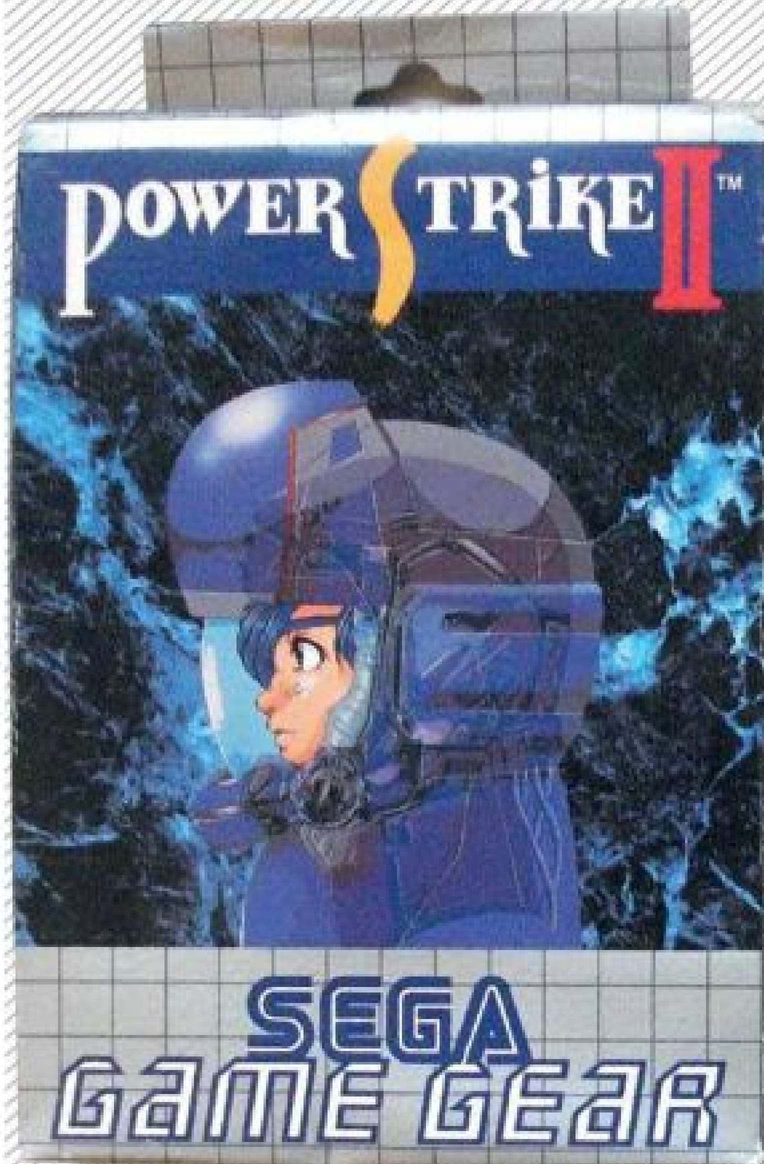
Sonic 2-In-1

■ Another *Sonic* game? Bizarrely, yes. This two-game collection didn't feature *Sonic The Hedgehog* and *Sonic 2* as you may expect but rather *Sonic 2* and *Sonic Spinball*. Games were chosen not via a menu but by power cycling the handheld. The two were far from the greatest of the 'hog's handheld adventures, making them odd choices.



THE JEWEL IN THE CROWN

Both the Master System and Game Gear received Power Strike II, but they were entirely different games. Both were excellent, though, showing off what the respective systems could do







What makes it so special?

■ *GG Aleste: Galvanic Gunner Aleste* was Japan-only, but the sequel, *GG Aleste II: Lance Bird*, was granted a European release as *Power Strike II*. It put the system through its paces with busy backdrops and an alluring special effect when using a smart bomb. It's one of the hardest games to track down.



Why is it so expensive?

■ It's easily the best example of the genre for the Game Gear, and as every retro gamer worth their salt knows, fans of 2D shoot-'em-ups are quite willing to pay vast sums to satisfy their itchy trigger fingers. The fact that it was never released in the US also makes it desirable to US collectors.



What makes it hard to find?

■ By 1993 the system was starting to appeal more to the younger demographic. As such, retailers more than likely chose to stock colourful platformers and licensed games instead. It's hard to imagine a child buying *Power Strike II* over any of the heavily promoted *Sonic The Hedgehog* games.



THE COMPLETE CHECK LIST OF PAL GAME GEAR GAMES



Arena: Maze Of Death

- Addams Family, The
- Adventures Of Batman And Robin, The
- Aerial Assault
- Aladdin
- Alien 3
- Alien Syndrome
- Arena: Maze Of Death
- Ariel: The Little Mermaid
- Asterix And The Great Rescue
- Asterix And The Secret Mission
- Ax Battler: A Legend Of Golden Axe
- Ayrton Senna's Super Monaco GP II
- Baku Baku
- Batman Forever
- Batman Returns
- Battletoads
- Beavis And Butt-Head
- Bonkers Wax Up!
- Bram Stoker's Dracula
- Bugs Bunny In Double Trouble



Chuck Rock

- Castle Of Illusion Starring Mickey Mouse
- Chakan
- Championship Hockey
- Chessmaster, The
- Chuck Rock
- Chuck Rock II: Son Of Chuck
- CJ Elephant Fugitive
- Columns
- Cool Spot
- Cosmic Spacehead
- Crash Dummies
- Crystal Warriors
- Daffy Duck In Hollywood
- Defenders Of Oasis



Donald Duck: Deep Duck Trouble

- Desert Strike
- Devilish
- Donald Duck: Deep Duck Trouble
- Donald Duck: Lucky Dime Caper
- Double Dragon
- Dr Robotnik's Mean Bean Machine
- Dragon Crystal
- Dragon: The Bruce Lee Story
- Dropzone
- Dynamite Headdy
- Earthworm Jim
- Ecco The Dolphin
- Ecco: The Tides Of Time
- Ernie Els Golf
- Evander Holyfield's Real Deal Boxing
- Excellent Dizzy Collection
- F1: World Championship Edition
- F1 Racing
- F-15 Strike Eagle
- Factory Panic
- Fantastic Dizzy
- Fantasy Zone
- Fatal Fury Special
- FIFA International Soccer
- FIFA Soccer '96
- Galaga 2
- Game Pack 4-In-1
- Garfield: Caught In The Act
- George Foreman KO Boxing
- Global Gladiators
- G-Loc Air Battle
- GP Rider
- Halley Wars
- Home Alone
- Hook



The Incredible Hulk

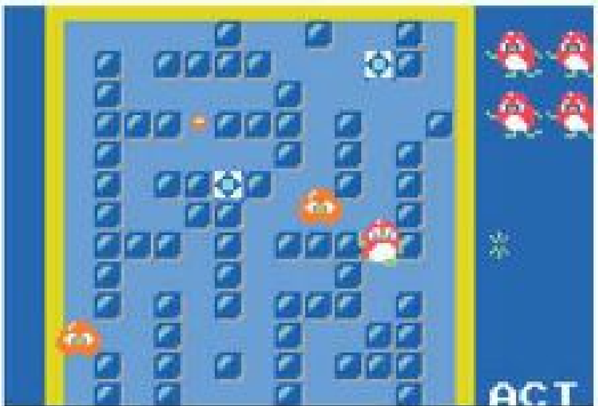
- Hurricanes
- Incredible Hulk, The
- Indiana Jones And The Last Crusade
- James Bond 007: The Duel
- James Pond 2: RoboCod
- James Pond 3: Operation Starfi5h
- Joe Montana Football
- Judge Dredd
- Jungle Book, The
- Jurassic Park
- Kawasaki Superbikes
- Klax
- Land Of Illusion Starring Mickey Mouse
- Legend Of Illusion Starring Mickey Mouse
- Lemmings
- Lion King, The
- Madden '96
- Man Overboard
- Marble Madness



Joe Montana Football

- Marko's Magic Football
- Micro Machines
- Micro Machines 2: Turbo Tournament
- Mighty Morphin' Power Rangers
- Monster Truck Wars
- Mortal Kombat
- Mortal Kombat II
- Mortal Kombat 3
- NBA Jam
- NBA Jam: Tournament Edition
- NFL Quarterback Club
- NHL Hockey
- Ninja Gaiden
- Olympic Gold
- Ottifants, The
- OutRun
- OutRun Europa
- Paperboy
- Pengo
- Pete Sampras Tennis
- PGA Tour Golf
- PGA Tour Golf 2
- PGA Tour Golf '96
- Phantom 2040
- Popils
- Power Drive
- Power Rangers: The Movie
- Power Strike II
- Predator 2

EXTREMELY RARE	VERY RARE	RARE	UNCOMMON	COMMON	VERY COMMON
Games that have less than a few dozen known copies available.	Very hard to come by. Expect to see only a couple of copies per year.	You should be able to source these in a reasonable amount of time.	You won't find them straight away, but you will after a search.	Always just a click away for the average collector.	So common you'll find them in most bundles of games you buy.



Pengo

- Primal Rage
- Prince Of Persia
- Psychic World
- Putt & Putter
- Ren & Stimpy: Quest For The Shaven Yak
- Rise Of The Robots
- Ristar
- Road Rash
- Road Runner: Desert Speedtrap
- RoboCop 3
- RoboCop Versus The Terminator
- Schtrompfs, Les
- Schtrompfs Autour De Monde, Les
- Sensible Soccer
- Shinobi
- Shinobi 2
- Simpsons: Bart vs The Space Mutants, The
- Simpsons: Bart vs The World, The
- Simpsons: Krusty's Funhouse, The
- Simpsons: The Itchy & Scratchy Game, The
- Slider
- Solitaire Poker
- Sonic 2-In-1
- Sonic Blast
- Sonic Chaos
- Sonic Drift
- Sonic Labyrinth
- Sonic Spinball
- Sonic The Hedgehog
- Sonic The Hedgehog 2
- Sonic Triple Trouble
- Space Harrier
- Speedy Gonzales: Cheese Catastrophe



Tempo Jr



Wizard Pinball

- Spider-Man
- Spider-Man: Return Of The Sinister Six
- Stargate
- Star Wars
- Super Star Wars: Return Of The Jedi
- Streets Of Rage
- Streets Of Rage 2
- Strider Returns
- Striker
- Super Columns
- Super Kick Off
- Super Monaco GP
- Super Off Road Racer
- Super Smash TV
- Super Space Invaders
- Superman
- Tails Adventure
- Talespin
- Tarzan: Lord Of The Jungle
- Taz In Escape From Mars
- Tazmania
- Tempo Jr
- Terminator 2: The Arcade Game
- Terminator 2: Judgment Day
- Terminator, The
- Tintin Au Tibet
- Tom And Jerry: The Movie
- True Lies
- Ultimate Soccer
- Vampire: Master Of Darkness
- Virtua Fighter Animation
- VR Troopers
- Wimbledon
- Winter Olympics
- Wizard Pinball
- Wolfchild
- Wonderboy
- Wonderboy: The Dragon's Trap
- Woody Pop
- World Class Leaderboard Golf
- World Cup USA '94
- World Cup Soccer
- WWF Raw
- WWF WrestleMania Steel Cage Challenge
- X-Men: GamesMaster's Legacy
- Zool

Collector Q&A

Omar Cornut is the founder of SMS Power, a website dedicated to preserving Sega's 8-bit systems

When did you start SMS Power and why?
I started the site as a means to both physically and digitally preserve Sega 8-bit gaming. I'm hoping that eventually my collection can find a home in a public library and be archived for preservation and research.

When did you start collecting seriously?
I started in 1997. It was a bit of an accident really, starting with games I wanted to play, and then through my other projects I ended up receiving many free carts. I became addicted to it, like some sort of fate I can't escape from.

How many games are in your GG collection?
I'm not sure of the exact count, but it seems to be over 700. I've got a good share of Japanese, European and USA releases, as well as a smaller collection of Brazilian, Korean and Taiwanese cartridges. The latter are particularly tough to obtain. Even travelling to Korea and hunting obscure retro shops, I had difficulty finding Game Gear games. Some of the Korean games have gold cartridges, which are certainly worth the trip.

What's the most you've spent on a GG game?
Indecent three-digit numbers for some prototypes. Normal releases don't fetch such high prices really.

What is the showpiece of your collection?
Uncovering non-retail items is the most exciting thing. I have about 25 prototype carts, including a handful of unreleased games, an original development Game Gear with TV output, and a development kit comprising a bunch of old scary computer cards and boxes. The Japanese console variations are also super cool: white, yellow, red, blue – you name it. The colours of their packaging are very pleasing. It's like a party on the shelves. Love them.

Is there one particular game that is eluding you?
I am rather stingy when it comes to buying games and thus my European and USA collections still have huge gaps. Games like *Tarzan* and *Power Drive* fetch high prices, so I'm waiting for a cheap opportunity. If people stopped buying them it would make my life easier!

What's the hardest game to find that you own?
I've got a Japanese game called *Car License*, published by Mitsubishi, which never made its way into the shops as far as I know. It's designed to help learner drivers.

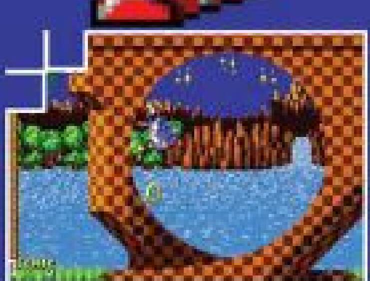
Any advice to new Game Gear collectors?
Don't do it! Go in the forest and build yourself a house!



THE MAKING OF



A powerful new 16-bit games console, continued pressure from a portly plumber, and a company firing on all cylinders led to one of Sega's finest hours in June 1991. Discover how a little blue hedgehog became the face of Sega



IN THE KNOW

- » **PUBLISHER:** SEGA
- » **DEVELOPER:** SEGA/SONICTEAM
- » **RELEASED:** 1991
- » **PLATFORM:** MEGADRIVE
- » **GENRE:** PLATFORM

Before Sonic span onto the scene in a dazzling blur of cobalt blue, Sega's previous attempts to create a company mascot had been unsuccessful. Their primary intent was to capture hearts in the same way that Mario had done for Nintendo, but nothing seemed to fit. *Fantasy Zone*'s ovoid spaceship Opa-Opa is often referred to as the very first mascot, briefly holding on to the honour until a tracksuit-wearing, rock-smashing prince named Alex Kidd came along and took his paper crown.

But when creating Alex, it's debatable that Sega had hit upon the key ingredients that would give them a character to match the might of Mario. Younger and more athletic than Nintendo's tubby talisman, trained in a martial art and able to drive an assortment of vehicles, Alex exhibited many of the same characteristics that Sega would imbue into Alex's spiny successor. For connecting with a young audience, Alex certainly had a lot going for him. Unfortunately, he had a tough time competing against Nintendo's all-conquering NES, which at one time could be found in 1 in 4 American households.

Two years after the 1989 release of the Genesis in North America, Sega found itself in a fairly strong position stateside. Its arcade machines *Space Harrier*, *OutRun* and *Shinobi* were proving popular coin-guzzlers, and its powerful new 16-bit successor to the Master System was also selling well thanks to its impressive visuals and early library of arcade tie-ins. But conscious that Nintendo was preparing to release its 16-bit successor to the NES any day now, Sega knew it needed to find itself a Mario, and fast.

So it was that Sega of Japan famously set its best designers the task of coming up with a brand new hero to represent the company and its new console. During the initial ideas stage many designs were pitched and considered; rabbits, armadillos, even human characters, but in the end it was a teal-coloured hedgehog that was finally selected, put forward by artist Naoto Oshima, who had previously worked as a designer on the first two *Phantasy Star* games.

Originally dubbed Mr Needlemouse, Oshima's creation went through a number of changes before becoming the zippy blue hedgehog we know today. Early concepts for the character, which were dropped as a result of a makeover by Sega of America, had him playing in a rock band, his mouth drawn with fangs, and in a relationship with a blonde human girl named Madonna.

For obvious reasons Sonic's colour was altered to Sega blue, while Oshima has revealed that Sonic's iconic red power sneakers were inspired by a combination of the belt-strapped boots that Michael Jackson wore on the cover of his album *Bad* and the colour of Santa Claus, whom Oshima regarded at the time as the most 'famous character in the world.' Blending



DEVELOPER HIGHLIGHTS

PHANTASY STAR (PICTURED)
SYSTEM: SMS
YEAR: 1988

SONIC THE HEDGEHOG 2
SYSTEM: MEGA DRIVE
YEAR: 1992

SPACE HARRIER
SYSTEM: ARCADE
YEAR: 1985



» [Mega Drive] Naka feels that *Super Mario Bros.* and *Sonic* both influenced each other.

all these visual elements together, Sega hoped that it had the perfect character that would appeal to an American market. All Oshima needed now was a striking game to show his creation off, and it was here that Sega bosses turned to a talented programmer named Yuji Naka.

Naka had become renowned in the company for his impressive programming skills thanks to his work on *Phantasy Star*. He had also proven his skill for tackling the platform genre, with an impressive Mega Drive conversion of *Ghouls'n Ghosts*. And so Sega asked Naka and Hirokazu Yasuhara, *Sonic*'s game planner/level designer, to help Oshima bring Sonic to life and become the driving force in a team of AM8 developers. They were later famously renamed Sonic Team.



When work on the project began, Naka was adamant the game should be fast and exhilarating to show off the impressive processing speed of the Mega Drive. An important cornerstone for the game, Yuji Naka explains how it was *Super Mario Bros.* that inspired him to create the fastest platformer the world had ever seen.

"Every time I played the first stage I wondered why I couldn't clear it faster, the better I got playing it," Naka explains. "This feeling must have been the beginning of the idea of *Sonic*, as you get good at playing you can run through the stage really fast. I think *Sonic* itself turned out to be a totally different concept to *Super Mario Bros.* But I do feel it was a game that affected me very positively. There is a part in *Sonic 1* where Sonic swims in the water and eats bubbles to take his breath to go on. I was very happy when *Super Mario Bros.* later used a similar system in one its sequels, because I felt we were inspiring each other."

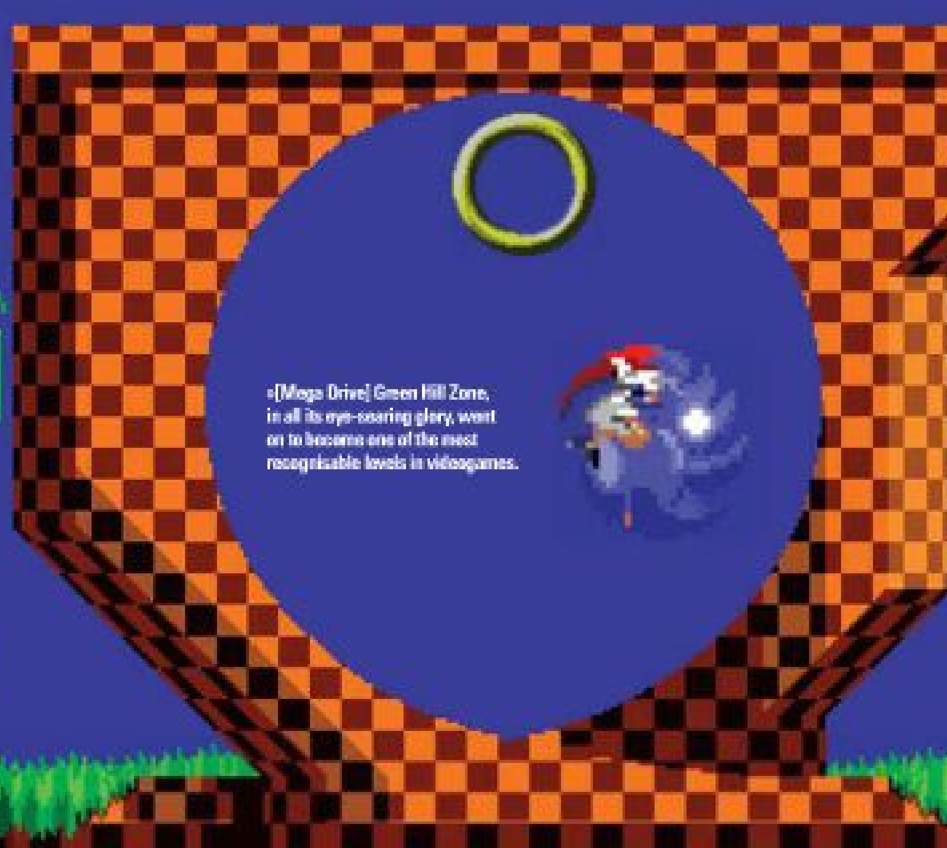
Meanwhile, Yasahura's approach to *Sonic*'s level design was to create them in such a way that they would appeal to both casual and hardcore gamers. He set about achieving this by mixing fun level elements with challenging obstacles and moving parts. Of the seven zones in the game, Sonic's opening stage Green Hill Zone became the most iconic. A vibrant place featuring blue skies, lush green grass, chequerboard tunnels and loop the loops; the perfect playground for Sonic to showcase all his abilities. It was a brilliantly attention-grabbing introduction for gamers, and for those who had never owned a console. So where did inspiration for this iconic stage come from?

THE ANTHRO ALSO-RAN

OF ALL THE CHARACTER designs put forward for consideration to Sega bosses and were dropped in favour of Sonic, it was the character of Mighty the Armadillo that received the most attention. Following the success of *Sonic the Hedgehog*, Sega decided to revisit and polish up the character for an appearance in the Sonic coin-op *SegaSonic The Hedgehog*. In the isometric trackball-controlled coin-op, Mighty worked alongside Sonic and another anthropomorphic character named Ray the Flying Squirrel to escape from Robotnik's booby-trapped island base. Mighty would later appear in 32X title *Knuckles Chaotix*, while Ray just received minor cameos in the recent *Sonic Generations* and the Saturn port of *Gale Racer* (aka *Rad Mobile*), which was the coin-op that marked Sonic's first ever videogame appearance, as a rear-view mirror ornament. Ray was seemingly deserted by Sega, but considering that he's an orange, long-tailed flying squirrel, we suspect the reason could be because he played a big part in the design and character of Sonic's popular sidekick Tails. Either that or Sega simply deemed the characters to be too similar and so they promptly showed Ray the exit.







» [Mega Drive] Green Hill Zone, in all its eye-searing glory, went on to become one of the most recognisable levels in videogames.

THE MAKING OF



»[Mega Drive] The inventive bonus rounds quickly became a popular staple of the franchise.

THE OTHER SONIC 1



RELEASED SHORTLY AFTER the seminal Mega Drive hit, Sega created for its loyal 8-bit fans a unique version of *Sonic the Hedgehog* for the Master System. This 8-bit version differed in a number of ways from the original. It featured a new story and six zones; three based on the original but with altered layouts, and the others completely new. Many of the enemies made it across, as did all of Sonic's moves with the exception of his block-pushing animation. The game's development was handled by Ancient, a Japanese developer managed by revered Sega composer Yuzo Koshiro. Naturally then, Koshiro wrote the music for the game, which was a combination of tunes inspired by its 16-bit counterpart and brand new compositions. Overall, the 8-bit *Sonic the Hedgehog* is a fine standalone Sonic game, rather than a watered down port.



[Mega Drive] Green Hill Zone's bright vibrant look was inspired by the work of acclaimed Japanese illustrator Eizin Suzuki.

"Green Hill Zone was inspired by California," Naka answers simply. "Also we were aiming to show the latest computer graphics at that time, which were using polygon and ray tracing, through pixel art to make it look very new. With regards to the colours, I believe they were inspired by a picture drawn by Eizin Suzuki."

Eizin Suzuki's work frequently features stunning pop city illustrations that look every bit the kind of artwork we'd have expected to see up on the walls inside Sega at that time. Often depicting bright realism with a vivid surreal edge, one piece in particular instantly catches our attention. It shows a classic red open-top sports car parked beside a welcoming beach-side restaurant. With its deep blue skies and engagingly expressive colours, the connection is clear.

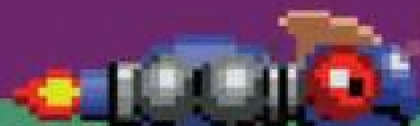
From a technical perspective, Naka says that the biggest challenge in getting the Mega Drive to accommodate *Sonic* came from the processing speed of its hardware. And with *Sonic* pushing the Mega Drive in a way that no game had done before, there were several features that Naka and his team wanted to incorporate into the game, but with space and time constraints were unable to. Interestingly, one of these omitted features would later provide the starting point for the sequel, while another inadvertently give rise to a popular Sega motif.

"There were two features that we were not able to put into *Sonic 1*," Naka explains. "The first one was to support two players playing at the same time. At the last point of developing *Sonic* we were doing tests with splitscreen in order to allow two players to play at the same time. But my technical capability wasn't enough to allow the game to be completed with this feature. When we began work on *Sonic 2* we tested this first to ensure that a two-player game system was achieved before properly starting the project.

"We also tried to prepare a sound select screen, with pictures of Sonic's band, and Sonic singing and break-dancing. The pictures were mostly completed but we couldn't make this feature fully completed on schedule, so it was rejected. But the storage on the ROM to put this feature in was available because of this, so we added the "Sega" voice on the part where we showed the Sega logo. In the end, I think this was a good idea."

From the initial concept for *Sonic* that saw him playing in a rock band to the revelation of a sound select screen that had to be dropped, it's clear that Naka and his team always intended for music to play an important part of the game. We were therefore keen to find out how much planning went into that particular aspect, and how the team ensured it would enhance the overall experience for players as successfully as it did.

"It was just around the time when music in games was first getting exciting, so we asked Masato Nakamura, a member of Dreams Come True [a famous pop band in Japan] to make the music for each stage sound like it was based on each stage's image. *Sonic* also put a lot of pressure on us not only in regards to the music but the sound



ZONED OUT

The many levels of Sonic The Hedgehog



GREEN HILL

This gorgeous zone is relatively easy to navigate thanks to its large stretches that feature very few enemies or hazards. Loops are in abundance, and Sonic is able to reach insane speeds. This is arguably one of the most iconic videogame levels of all time.



MARBLE

As its name suggest, Marble Zone is made of Marble. It's also a very hazardous zone, thanks to a large number of nasty spikes, falling chunks of ground, and trickling lava that Sonic needs to navigate. There's a lot of block pushing on this level, and therefore less whizzing.

SPRING YARD

We like Spring Yard Zone, and not just because it appears like a giant pinball table. It can be a little frustrating to negotiate due to the many bumpers and springs it features, but careful movement is the key to success. It also features plenty of cool secrets to discover.





SCRAP BRAIN

This is a truly frustrating level with all sorts of devious and downright nasty traps for Sonic to deal with. Conveyer belts, vanishing platforms and intermittent gas ruptures (which send up gouts of flame) all combine to make this a hellish stage that will require all your skills to negotiate.

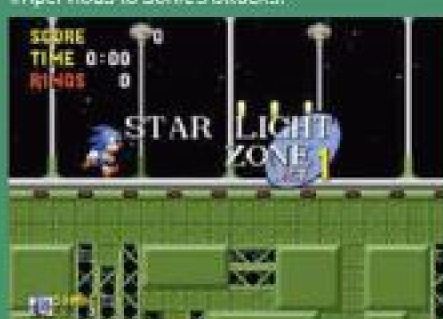


LABYRINTH

The maze of Labyrinth Zone can be a real headache to navigate. In addition to having to make your way from some trickily designed stages, many of the levels are mostly underwater. Sonic can only hold his breath for a limited time, so you need to find an air bubble or drown.

STAR LIGHT

Speed freaks will adore Star Light, as Sonic can really zoom through it. Many of the levels are filled with loops and enable Sonic to reach hyper-fast speeds. It has a real rollercoaster feel to it, but care must be taken as while there are only a few enemies they are often impervious to Sonic's attacks.



FINAL

This isn't really a zone. It's where Sonic must face off against Dr Robotnik for the final time. It's little more than a short corridor which ends in a large room filled with dangerous energy balls and plungers that try to crush poor Sonic. Kill Dr Robotnik for the win.



FX and jingles. We fixed these quite a lot to allow them to make players feel good while they play the game."

Initially Sega of America had doubts about Sonic's American appeal, concerned that Americans wouldn't know what a hedgehog was. However, following a few tweaks by SOA to soften up the character for Western gamers, a change that at first didn't go down too well with the members of Sonic Team, *Sonic the Hedgehog* was finally finished and released in 1991.

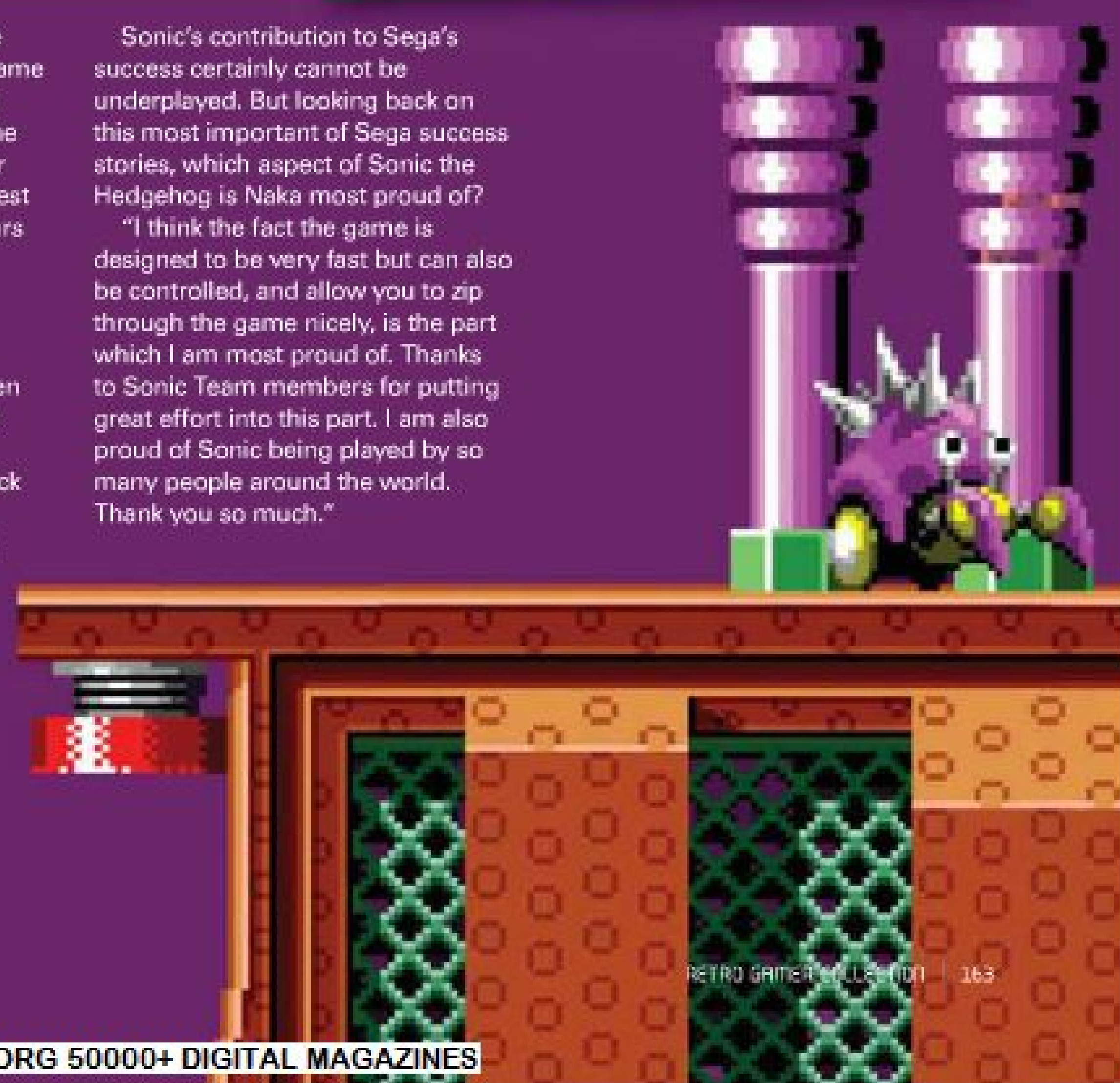


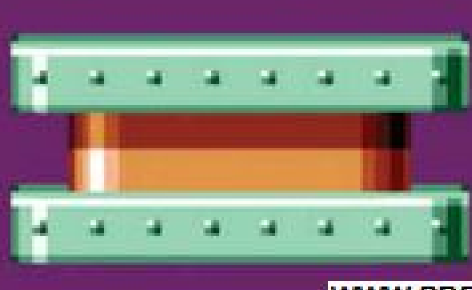
Looking more coin-op than console game, *Sonic the Hedgehog* helped to bridge the gap between those two markets more successfully than any Mega Drive title previously released, and became an instant classic as a result. And when Nintendo finally released the Super NES in North America later that year, it led to one of the biggest and most memorable console wars in gaming history.

Following a rather aggressive marketing campaign by SOA, Sonic quickly become synonymous with Sega. And when Sega of Japan gave in to its initial reluctance to offer the game as a pack in with Genesis consoles, Sonic went on to play an even bigger role in helping Sega take majority share of the North American games market away from Nintendo.

Sonic's contribution to Sega's success certainly cannot be underplayed. But looking back on this most important of Sega success stories, which aspect of Sonic the Hedgehog is Naka most proud of?

"I think the fact the game is designed to be very fast but can also be controlled, and allow you to zip through the game nicely, is the part which I am most proud of. Thanks to Sonic Team members for putting great effort into this part. I am also proud of Sonic being played by so many people around the world. Thank you so much."

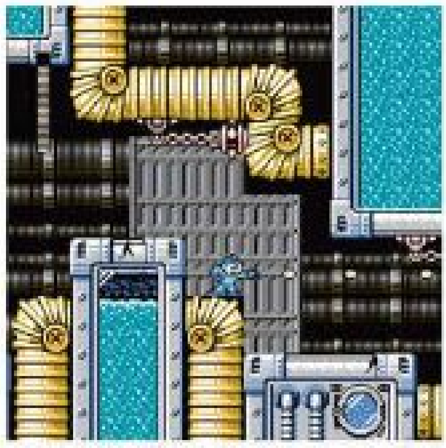
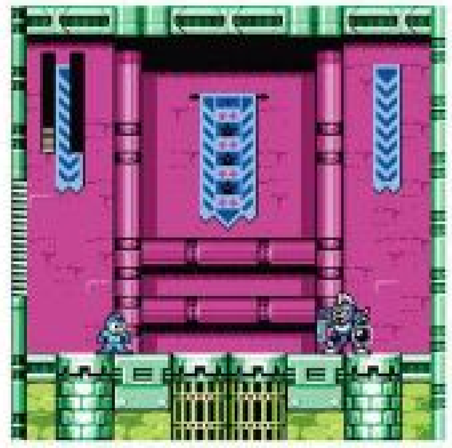


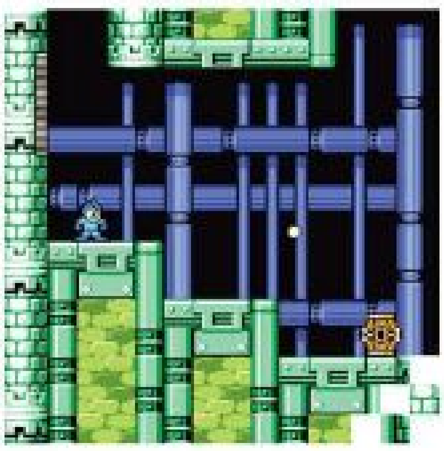













Signature Series

MEGA MAN



Once upon a time, he was a poster child for the NES and climbed to the lofty status of mascot. Now, Mega Man is a footnote, only loved by a hardcore fan base. We return to the original adventures and relive some happy memories

THE BACKGROUND

The *Mega Man* series is an interesting one. It has spawned over 100 games and spin-offs, had its title characters elevated to mascot status at Capcom, and has sold over 29 million units worldwide. And yet today, Mega Man is somewhat of a forgotten hero, with new games getting cancelled, and some not even making it to UK shores. When he does appear in a game, it's usually in the form of a cameo or playable character, or in a digital release, like the enjoyable Mega Man 9 and 10 for Virtual Console. Once upon a time, though, it was a completely different story, and it's that period that we will now be focusing on.

Known as *Rockman* in Japan, the first *Mega Man* game was released on the Nintendo Famicom in 1987. Interestingly, while he is often credited as the creator of the iconic blue hero, Keiji Inafune was actually a co-creator, which he revealed at the Tokyo Game Show in 2007. Documented by GameSpot, he said: "I'm often called the father of Mega Man, but actually, his design was already created when I joined Capcom. My mentor, who was the designer of the original Mega Man, had a basic concept, so I only did half the job in creating him." It's an honest admission, but hardly surprising from Inafune, who, before leaving Capcom in 2010, wasn't afraid to say how he felt about the company and the Japanese games industry in general.



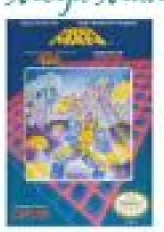
Back in 1987, though, Inafune was a 22-year-old aspiring illustrator, who jumped at the chance to have more control on a project, having started as a graphic designer on the original *Street Fighter*. *Rockman*'s earliest name stems from the team's love of rock music and a rock-paper-scissors approach

to the boss battles, which still holds true in later games. Limited by the Famicom's colour palette, and inspired by numerous mangas, *Rockman* had a cute, cartoony look and structure that led many to think that the character was Capcom's answer to Nintendo's Mario, who had already cemented his success on the Famicom thanks to *Super Mario Bros.*

This was far from the case, as beneath *Rockman*'s sugary sweet exterior was a difficulty that many gamers struggled with. The series would go on to gain a reputation for being extremely unforgiving, a trait that remains with it to this day. And yet this difficulty didn't seem to matter to gamers, with Capcom releasing no fewer than six games for Nintendo's console over a six-year period.

THE GAMES

Mega Man (1987)



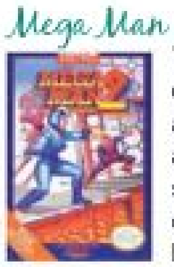
The original *Mega Man* marked a huge departure for Capcom, as it was the first time that it had focused on a home console release. It had previously worked exclusively on arcade titles and ports of its games, which may explain why *Mega Man*'s difficulty is so high. It's like Capcom forgot that it wasn't making a coin-op game and wanted you to shove in as many credits as you could, or that creating arcade games was so deeply ingrained that it never considered anything else.

Infamous for its high difficulty and abominable Western box art, *Mega Man* is actually an exceptionally well-designed game when you sit down and dissect it, which is something it often isn't given credit for. *Mega Man* allows you to tackle its first six stages in any order you like, a novel approach at the time and something that stayed with the series throughout all its NES sequels, and it's a credit to Inafune and the rest of his five-man team that they were able to create a game with such an open-ended approach.

Mega Man is also famous for its inventive boss fights, which require both a good eye and great co-ordination to beat, but reward you with the boss's weapon when you finally defeated him. Unlike Mega Man's arm cannon, these more powerful weapons were limited in uses, with Mega Man needing to top them up on a regular basis. Once all six bosses had been tackled, *Mega Man*'s final stage – a mash-up of four previous levels – and the six bosses had to be battled again, a staple that has featured in later *Mega Man* titles as well as other Capcom franchises.

Despite acclaim upon its release, *Mega Man* wasn't a particularly high seller, which, in today's market, would have been the death of the franchise. Capcom saw its potential, however, and gave Inafune and his team another crack…

Mega Man 2 (1988)



That came in the form of *Mega Man*'s excellent sequel, but it also came with a proviso from Capcom. While Inafune and his team were allowed to work on a sequel, they had to do it in tandem with other projects, meaning *Mega Man 2* had something of a stilted development, with the team often working in their own time. Even so, *Mega Man 2* was a resoundingly good game, effortlessly building on the DNA of the original game,

EXPERT OPINION



Retro Gamer reader Ian Barlow is a huge Mega Man fan, who has been collecting memorabilia for years. Here's his insight into Capcom's long-running franchise

RG: Why do you think *Mega Man* struck such a chord with gamers on its release?

Ian Barlow: The non-linearity was a real eye-opener for me – being able to choose what order to tackle the levels was extremely unusual for a game at the time. Stuck on one level or boss? Simply tackle a different level instead and come back to it later.

Add to that how Mega Man's ability to gain his foe's weapons after defeating them not only enabled you to access secret areas and alternate routes in levels but also helped make some of the game's more notorious boss fights easier to handle.

RG: Why are speed runs so popular for this series?

IB: For me, it's mainly down to working out the quickest order to tackle the bosses, working out how to shave a few extra seconds off your time by properly utilising the different weapons at your disposal.

RG: What important changes did the *Mega Man X* series bring to the franchise?

IB: The introduction of Zero as a second playable character in *Mega Man X3* was a big change for the series, as up until this point you only ever played as Mega Man. Capcom then expanded on this concept by giving Zero his own story and unique play style in *X4* onwards, and eventually also introduced Axl in *X7* and *X8*.

Then there are the various upgrades you could collect during each game. While there were the odd secret items here and there in the classic series, the *X* series made a bigger deal of item, weapon and armour upgrades for X. Each game included hidden upgrades that would improve X's various abilities, including a better charged shot, air-dashing, and even the ability to learn Ryu and Ken's Fireball and Dragon Punch moves from *Street Fighter*!

RG: *Mega Man* has a hardcore following. What is the community planning for his 25th anniversary?

IB: No doubt the community will be doing marathons and speed runs of the series to coincide with his 25th anniversary. As well as that, we can look forward to some nice soundtracks and remixes from the various games in the series to commemorate the occasion. Hopefully Capcom themselves will also be planning something nice to celebrate the anniversary!

RG: How many total games are there in the franchise?

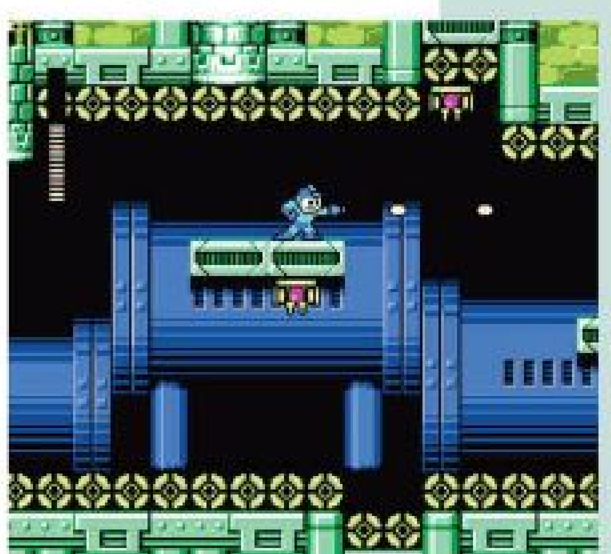
IB: It's hard to say for certain! There are around 128 titles in the *Mega Man* series so far, but this isn't taking into account the many weird and wonderful titles released in Asia, such as the PC games *Rockman Strategy*, *Rockman X Math Tornado*, etc, or some of the excellent doujin games such as *Rockmen R* and *RosenKreuzStilette*.

RG: We hear you're something of a collector. Is this true?

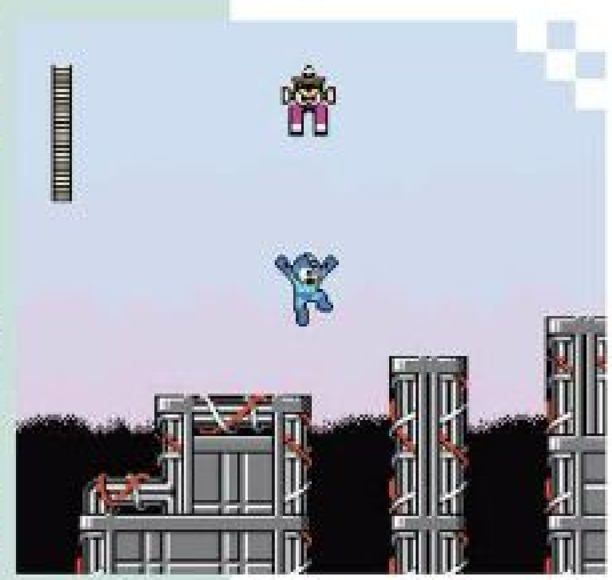
IB: You could say that! I've been seriously collecting the series for several years now, as it has always remained my favourite game series ever. So far I've managed to collect over 350 different games, including regional and cover variants, from the series, but I am always discovering new variants on my travels, so I don't think I'll ever manage to actually 'complete' my collection!

RG: Why do you think the *Mega Man* series remains so loved by fans?

IB: It's a series that has aged really well and remains just as challenging and playable, even today. Plus with the recent releases of *Mega Man 9* and *10*, many people have been revisiting the previous entries in the series to see where it all began.



» [NES] The series' famed difficulty was a particular barrier until the game introduced passwords. Battery backup wasn't brought in until later hardware.



» [NES] Inafune was unhappy with *Mega Man 2* at the time of its release, having been forced to put it out before he felt it was finished.

> **"Mega Man 2 was a massive success for Capcom, selling over 1.5 million copies worldwide"**

Also appeared on…

MEGA MAN PROVED popular and has received a number of digital ports and remakes. An early example was its inclusion on *Mega Man: The Wily Wars*, a Mega Drive compilation of the first three games, which featured enhanced visuals and arranged music and the cool Wily Tower mode, which boasted new levels and bosses and the option to choose a loadout of weapons from the three games. *Mega Man* has also gone on to appear in *Rockman Complete Works* for the PlayStation, which featured a useful tip giving Navi mode; and *Mega Man Anniversary Collection*, a US only release for PS2, GameCube and Xbox.

Our favourite remake is *Mega Man Powered Up* for the PSP. Released in 2006, its New Style features two new bosses, Oil Man and Time Man, who were first planned for the original NES game.



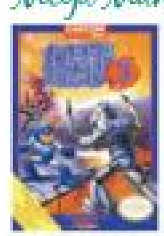
even if the core structure was largely the same. For many, it remains the best early *Mega Man* game, and it's not hard to see why.

The structure of *Mega Man 2* largely follows *Mega Man*, but on a grander scale. There are now eight bosses to defeat, and the levels themselves are more closely linked to the bosses that reside there. Mega Man still gains weapons from defeated bosses, but he now has access to new items, such as handy floating platforms that allow him to reach otherwise inaccessible areas on previously completed stages, and the Energy Tank, which lets him refill his precious energy bar at any time.

For many gamers, though, the password system was by far the biggest improvement to the series, as it finally allowed more gamers to make decent headway. Codes appeared whenever a boss was defeated, allowing for completion in bite-sized chunks. The gameplay was also a little easier in general, and while Mega Man still couldn't crouch, many of the enemy patterns were far easier to predict, meaning there were fewer frustrating deaths than in the original.

Perhaps most importantly, though, *Mega Man 2* was a massive success for Capcom, selling over 1.5 million copies worldwide. Small fry when compared to *Super Mario Bros*' 40 million tally, but a huge deal for Capcom, and rightful vindication for a triumphant Inafune, who immediately set to work on a sequel that would appear less than a year later.

Mega Man 3 (1990)

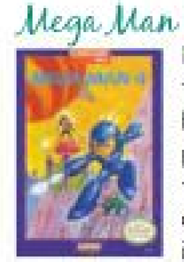


Mega Man's third outing arrived nine months after *Mega Man 2* and continued to build upon the core gameplay mechanics that had served the series so well. By far the biggest addition to the series was Mega Man's new ability to slide dash, which both allowed access to new areas and also made avoiding some weapons easier. Equally important was the addition of Rush, a new robotic canine companion for our hero, who had a number of useful abilities that ranged from the handy Rush Coil, which let Mega Man jump higher, to the Rush Marine that allowed him to travel underwater. These new enhancements continued to ensure that Mega Man's third adventure remained fresh and exciting, even if the difficulty was as high as ever.

Mega Man 3 also introduced Protoman, a mini-boss who would continually turn up and battle Mega Man throughout his lengthy quest. Notable for his red garb and flowing scarf, Protoman became the first new character that Inafune himself designed from scratch, and he would regularly show up in later games in the series, eventually going on to appear as an unlockable character in *Mega Man Powered Up* for the PSP. Mega Man's sister, Roll, also appears. While she pops up in the first game, it's right at the end. This is where she gets named.

Another interesting aspect of *Mega Man 3* is that Capcom finally realised that it might be a good idea to ensure that the hero on the cover actually looked like the one in the game. As a result, the box art was a huge improvement over previous work, capturing the anime look that Inafune had always intended.

Mega Man 4 (1991)



Mega Man's fourth game marked a transition for many fans, who felt that his quests were becoming a little too predictable. While there's a certain truth to this, it's nonetheless a well-crafted game, which continued to introduce subtle improvements to the series. The most notable of these is Mega Man's ability to charge his Mega Buster, the arm cannon that he's used throughout his adventures. It adds greatly to the game, making many sections easier, but this caused some to state that the series was starting to become unbalanced. Protoman and Rush also returned, and Rush once again featured all his original skills. Interestingly, Inafune decided not to include the drill attack that had been first planned for Rush during his original creation in *Mega Man 3*. There were additional support items in the form of wire and balloon adaptors, but unlike other items, which were awarded after completing certain stages, they were instead hidden.

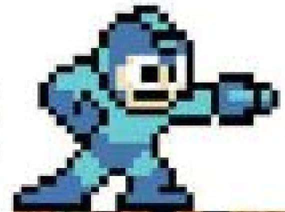
THE FURTHER ADVENTURES OF MEGA MAN

MEGA MAN HAD six adventures on the NES, but that wasn't to be the end of the 'classic' *Mega Man* series, as it's now known. *Mega Man 7* appeared on the Super Nintendo and, while graphically superior, featured similar gameplay mechanics to the earlier NES games. Rush could now use a Rush Search, which allowed him to dig up objects, and only four enemy bosses were initially selectable. There was also a new shop – first featured in the Game Boy games – that could be used to buy items and power-ups. *Mega Man 7* was the only 16-bit outing for the core classic series, as *Mega Man 8* made its debut on PlayStation and Saturn in 1996. It largely followed the template of *Mega Man 7*, but Mega Man could now combine weapons, which added to *Mega Man 8*'s overall strategy. The core series would then lie dormant for a further 12 years, until Capcom released *Mega Man 9* in 2008 and *Mega Man 10* in 2010. Both titles were digital releases and eschewed modern day visuals in favour of the original look of the NES games.





SERIES HIGHLIGHTS

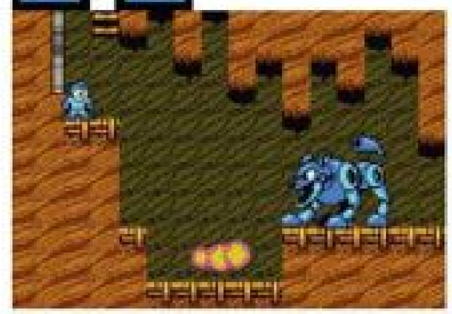




■ START YOUR FIRST game of *Mega Man* and you're greeted by this screen. As soon as you start cycling through the six bosses, you're bowled over by the sheer amount of choice available.



■ *MEGA MAN 2'S* opening remains iconic. You're given a brief intro before the screen pans skyward, finally resting on Mega Man, who stands heroically, his hair blowing in the breeze.



■ THE FIRST THING that strikes you about Hot Dog is his sheer size. It's an apt name as well, as it's not long before he belches out a searing sheet of flame at you. Ouch.



■ CERTAIN STAGES FEATURE light-carrying enemies. Shoot them and you'll plunge the screen into darkness, where it will stay until you find another light source. A very neat touch.



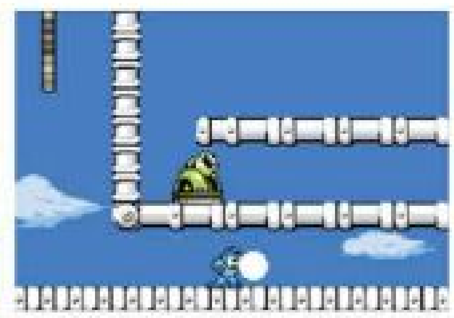
■ MEGA MAN'S FUSION with Rush in *MM6* is a nice touch. Simply select the power-up and Rush appears, transforms, and then bolts himself on to his beloved master. Awesome.



■ THERE ARE A huge number of bosses in the series, but the Yellow Devil is one of the most memorable. He's absolutely huge and has some fiendishly tricky attack patterns.



■ RUSH IS INTRODUCED in a touching scene during *Mega Man 3* and proves to be an extremely useful ally. He's as faithful as any normal dog, but doesn't need feeding.



■ AFTER FIGHTING WITH just a weedy arm cannon in three adventures, the Mega Buster is a massive improvement. Unfortunately, it led to an over-reliance on it in later games.

Mega Man 4 also marked the artistic debut of designer Hayato Kaji, who came up with the idea of Mega Man's chargeable Mega Buster and would go on to oversee many later *Mega Man* games. It marked the first time in the series that the bosses weren't actually created by the designers themselves. Instead, a competition went out to the gaming public, which resulted in over 70,000 submissions. The winners not only had their creations brought to life, but were given exclusive golden cartridges. Needless to say, those eight carts are now worth insane amounts of money to collectors.

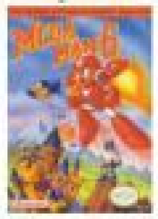
Mega Man 5 (1992)



By *Mega Man*'s fifth instalment, it was beginning to become obvious that the franchise was running out of ideas. Inafune wasn't as involved in *Mega Man 5* as he was in past games, and it shows in its general lack of creativity. A new project lead was called in, and while Hayato Kaji also helped out, he's gone on record to say that it wasn't the easiest title to work on.

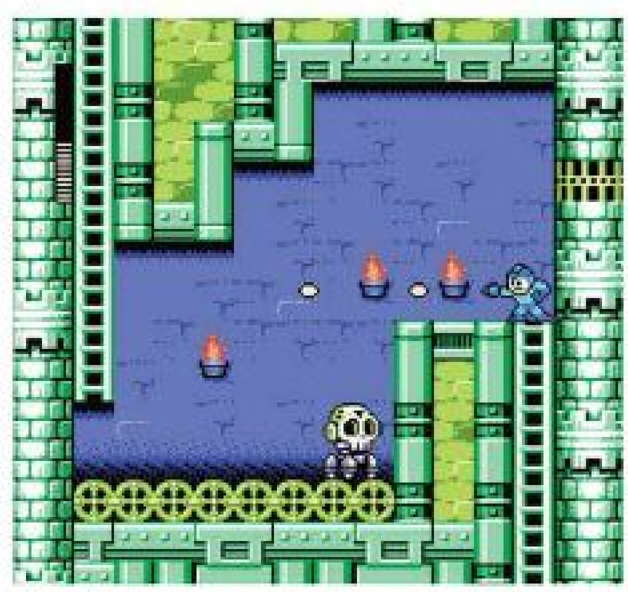
This is partly because *Mega Man 5* doesn't really feature any of the creativity found in earlier games. A new animal friend arrived in the form of Beat, a bird who would attack on-screen enemies, provided you found the circuit boards that were scattered throughout the eight worlds, while the Mega Buster had also been greatly powered up. Even the addition of new Mega Tanks, which fully recharged Mega Man's health, and stages with reversed gravity or vehicles couldn't hide the fact that the series was beginning to run out of steam...

Mega Man 6 (1993)



Considering that *Mega Man 6* was being worked on simultaneously with the first spin-off game, *Mega Man X*, it didn't turn out too badly at all. Inafune was once again heavily involved and was determined that Mega Man's final NES outing would see him going out with a bang. Mega Man could now fuse together with Rush via a pair of Rush Adaptors, and doing so granted him the ability to either punch through large blocks or fly and hover for a limited amount of time. Gameplay was kept balanced by ensuring that Mega Man wasn't too powerful in these new forms. For example, you can't use the charged shot in jet form, and it's impossible to use Mega Man's slide attack in either form. Bosses continued to be designed by fans, with submissions totalling over 200,000 – further proof of *Mega Man*'s enduring popularity – but Inafune was beginning to find the project challenging, with many designs having to be constantly altered to keep his superiors happy. There was also the issue of Knight Man and Wind Man being created very late in the game's development, due to there being a separate competition for American gamers, which put additional strain on Inafune and his team. All the hard work wasn't in vain, though, as *Mega Man 6* is a worthy ending to one of the NES's longest-running franchises, thanks to challenging level design, more weapons and some excellent power-ups. *Mega Man 6* may have been Mega Man's last NES adventure, but it certainly wasn't the end of the franchise. That, however, is a story we'll save for another time...

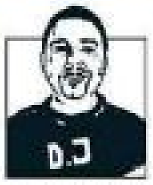
Special thanks to Ian Barlow for his help with this article.



» [NES] *Mega Man 6* was released extremely late in the NES's life, hitting three years after the launch of the Super Nintendo.

Lemmings 2: The Tribes

DMA DESIGN DOES THE TRIBAL DANCE



- DMA DESIGN
- PC
- 1993

Sequels are tricky games to get right. Make them too similar to the previous outing, and gamers get annoyed with the lack of originality in them. Conversely, make them too different and you dare to alienate the very audience that loved your game in the first place.

DMA Design's first proper *Lemmings* sequel cleverly appealed to both parties by delivering interesting twists on the original game, which set the world alight when it was first released in 1991.

The core gameplay of *Lemmings 2* remained identical to the original game, meaning you had to guide your lemmings to the available exit as quickly as possible. The structure, however, was far better thanks to the new tribes that had been introduced, which formed after the lemmings from the original game reached Lemming Island and split off into factions.

Lemmings 2: The Tribes featured 12 tribes, all with their own distinctive attributes (making 52 different lemmings in total) which offered far more flexibility when completing *Lemmings 2*'s 120 levels. While you had to complete each level before you could progress to the next, the 12 available tribes, which could be selected at will – and handily accessed by a world map – meant that you would never hit the walls of difficulty that could often be found in the original game. You'd simply try another tribe instead, furthering the accessibility of DMA Design's sequel.

The lemmings themselves added greatly to *The Tribes* and, while several of them were little more than offshoots of the original creatures, many did change the core dynamics massively, further improving the way you approached and completed each stage.

Neat touches also existed, like the new fan icon that could push wayward lemmings, the handy fast-forward button, or the fact that each tribe started with 60 lemmings and surviving ones would be carried over to the next level, which affected your final overall rating.

While *Lemmings 2: The Tribes* may have used the same core gameplay mechanics as the original, the addition of the tribes and new lemmings greatly enhanced the overall experience. It was also released on several different systems, meaning it shouldn't be hard to track down a copy of this excellent sequel. ★



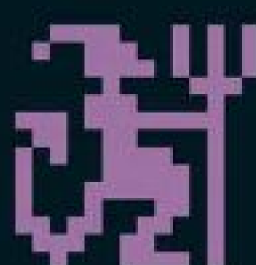

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HOLY MOLY: THE STORY OF

Monty Mole



CRAIG GRANNELL CHARTS THE PROGRESS OF EVERYONE'S FAVOURITE VIDEOGAME MOLE, FROM COAL THIEF TO SUPERHERO, WITH THE HELP OF CO-CREATORS PETE HARRAP AND TONY CROWTHER, EX-COMMODORE CODER JASON PERKINS, AND SID CHIP VIRTUOSO ROB HUBBARD



Ian Stewart, managing director at Gremlin Graphics, was once into double letters for initials, remembers Tony Crowther: "There had been *Potty Pigeon* in 1984, and then he came up with the name Monty Mole and asked me to write a game using the character." At the time, Tony was fixated on creating scrolling games on the C64, such as Son Of Blagger, and he thought he could do something better with the knowledge he'd since gained.

Through experimentation, Tony got a larger and faster scrolling platform game working: "Getting the tech right was a big challenge, but I had a crude sprite running around the map, and integrated a randomly generated maze, which at the time I was fascinated with." Once the *Monty Mole* name was decided, the game was moulded to suit. Tony recalls that with the game being designed on a big map, anything that didn't fit was dispensed with, and he aimed to include as much variety as he could. "I did have issues with the maximum number of sprites, with only eight allowed on the same line," he adds. "So the design worked around the number of available sprites, and also motion: I wanted to make as many moving parts as possible, with conveyer belts and crushers."

In a curious case of parallel development, Tony's game wasn't the only one in the works. Pete Harrap was given the same loose brief, but his target platform was the ZX Spectrum. With the Speccy lacking the hardware tricks necessary for full-screen scrolling, Pete unsurprisingly came up with something very different, inspired by *Manic Miner*. "That was the type of game I enjoyed back then – a mix of humour, simplicity and 'how do I get up there before I run out of time?' puzzles," he says.

DOWN THE PIT

In Pete's hands, Monty's Spectrum debut also took on a political bent. Pete placed Monty in a coal mine, making a daring raid to grab enough fuel to see himself through a long, cold winter. This was played out against a backdrop of

IN THE KNOW

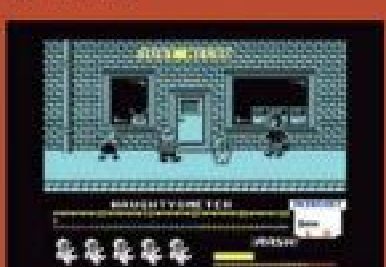
PUBLISHER: Gremlin Graphics
DEVELOPER: Gremlin Graphics/ Core Design (*Impossamole*)
PLATFORM: Various
RELEASED: 1984–1990
GENRE: Platform
EXPECT TO PAY: £1+ per game

DEVELOPER HIGHLIGHTS

THING ON A SPRING
1985 | C64, Amstrad

JACK THE NIPPER (pictured)
1986 | Spectrum, C64, Amstrad, MSX

LOTUS ESPRIT TURBO CHALLENGE
1990 | Amiga, Atari ST, Spectrum, C64, Amstrad



real-world industrial action in the UK, with coal miners striking, urged on by National Union of Mineworkers leader Arthur Scargill, who makes a brief appearance in the game, in caricature form. These elements rewarded Pete's game with a television appearance and led to promises by Gremlin to make a donation to a miners' charity.

"The miners' strike angle was because my dad was a coal-face worker, annoyed that he never got a vote on the strike," explains Pete. "Miners used to be very democratic, and it wasn't fair for my dad to be made to strike to satisfy the ambitions of Scargill, no matter how right he was about mine closures. He treated the miners as though they were stupid and couldn't decide for themselves."

This being the Eighties, Pete didn't create a typical mine for Monty to explore. Although it included a trip on a mine cart, dangerous falling debris and, of course, coal, it was also populated by all manner of surreal and dangerous foes, including demons and leaping sharks. "The visuals were fun, based on items that could be used in a mine, scare you, or make you laugh," he says. "My favourite was the dripping candle, although you wouldn't get a naked flame in a real mine!" It was also decided that the Spectrum version should be a flick-screen adventure rather than aping *Manic Miner's* single-screen approach, to "allow the player more choice on where to go next". Having started with what later became the game's second screen, a mine entrance, Pete worked up maps and figured out how they linked together, which determined the types of platforms that were required. The game was very rapidly put together, taking about three months in all.

» [C16] Mini *Monty On the Run*, on the C16. It's actually surprisingly good.



» [Spectrum] Helpful tip: don't fall down a mountain and get eaten by a yeti!



VICIOUS STREAK

Although Tony and Pete mostly worked in isolation – Tony recalls that his game was pretty much done by the time the Spectrum version was started, but Pete says the first he knew about the C64 version was when his game was almost finished – there was still time before shipping to swap a few ideas.

According to Pete, a couple of changes were demanded by Ian, who considered the Spectrum version to be "lacking a little oomph". Pete duly pilfered Tony's coal-crushers and added them to his game, then made them more vicious: "I was the one who made their movement in the Spectrum version random… guilty!"

Since Pete had decided on the game's hero stealing coal, that component was added to Tony's game. Additionally, Ian felt both games needed some kind of opening screen, and so Pete devised a scene where Monty sneaks up to a miner's house and grabs his coal bucket, before making a break for the mine, pursued by an angry miner and dodging massive acorns dropped by a crazed squirrel. A variant was added to the C64 version, but Pete took the added step of making all the coal in the Spectrum game invisible if you didn't first collect the bucket. "I guess I'm a bit cruel," he laughs. "But I felt it was obvious. How can you collect coal without a bucket?"

With *Wanted: Monty Mole* complete, Pete was satisfied, and while he'd have liked more screens and sprites – he explains that he never found a suitable spot for a digital version of his head – no grand plans were cut. "In hindsight, I'd give you a bit of warning on the crushers and clues about what might kill you – I was too cruel sometimes," he muses. "But I remember standing in WHSmith, looking at my hard work on a shelf, when a nine-year-old walked up and said, 'I want that one,' which was a proud moment." And on the varying versions that ended up being produced? "Tony's game was excellent, making full use of the C64's hardware, and, if I'm honest, it worked better than mine

MONTY IS INNOCENT

THE SECOND GAME in the *Monty Mole* series might have the furry felon adorning the cover art and title screen, but he was barely in the game itself. Instead, the hero of the hour was Sam Stoat, determined to free his chum from the bowels of Scudmore Prison. Designed by Chris Kerry, the title dispenses with *Wanted: Monty Mole*'s platforms. Instead, action is presented as a complex isometric 3D maze. In theory, the aim is to grab a key from the governor's office, to open one of the cell doors in another part of the complex; do this several times and you'll finally locate Monty. In reality, much of the game involves avoiding myriad beasties that kill Sam with the slightest touch, and getting hugely frustrated with the insane difficulty of springing Monty.

Reviews were mixed, and Pete notes that he had no involvement in its creation: "I only saw it after completion and didn't like it at all. To me, Monty is always a platformer." Gamers agreed; poor sales were largely what led to Pete being asked to work on a proper sequel to his original hit, the series high point that was *Monty On The Run*.



» [Spectrum] *Monty Is Innocent*? Perhaps. But the game's guilty of being a bit rubbish.

would have if directly ported. But mine was best. I'm biased!"

GOING IT ALONE

With a second game starring Monty having failed to trouble the charts (see '*Monty Is Innocent*'), Pete was asked to design a sequel more in keeping with his original. "Since he'd escaped prison, Monty was on the run," he says of the basic concept and name of the follow-up, *Monty On The Run*. But while Pete was keen to retain the style of *Wanted*, he was adamant that it shouldn't just be the same game with more screens. "I'd been disappointed with *Jet Set Willy* on that score," he says. "It lost a lot of detail when compared to *Manic Miner*, presumably to make the extra screens fit. I thought *Manic Miner* was the better game – more creative and fun."

With a mantra that adding screens at the cost of creativity was the wrong direction, Pete let his imagination drive *Monty On The Run*'s development. The map, while still broadly linear, offered more scope for exploration. New features were added, including teleporters, a somersaulting Monty, and lifts – one of which abruptly crashes, crushing the hero. Additionally, although most of the game remained a traditional platformer, two sections were very different: one found Monty piloting a jetpack; the other had him driving a C5. "The somersault was because I liked *Impossible Mission* on the C64 and wondered how it would look if I borrowed that for *Monty*," admits Pete. But other new map-oriented features were to force gamers to explore: "The 'porters are there because I'm a Trekkie, but I also wanted to create short cuts around the map, and areas you could only get into one way and then have to escape from. As for the broken lift, the first one was to discourage you from taking a perfectly good short cut later on. Did I mention I was cruel?"

Pete remembers when Ian bought a C5, explaining its presence: "I thought: 'Nice, a washing machine with wheels – I can use that!' I wanted to make it do wheelies, but couldn't fit the animations in, so I was stuck with it jumping." The jetpack, meanwhile, was a tribute to Ultimate. "Plus I thought strapping a jetpack to a mole would give you a fun new control method to get used to right in the middle of the game."

Monty On The Run sometimes frustrated – there were abrupt deaths and a pre-game 'Freedom Kit' that made areas impassable if you'd selected the wrong item. "I loved throwing spanners back then," chuckles Pete, noting that kit items were specifically chosen to appear useful. But the game was nonetheless far more playable and balanced than *Wanted*. "It's my favourite, because I feel I got almost everything right," affirms Pete. "It played exactly how I wanted, with just the right amount of humour."

> **"The broken lift discouraged you from taking a short cut later on. Did I mention I was cruel?"**





CONVERSION CAPERS

This time, instead of a wildly different C64 version, it largely matched the Spectrum's, which Pete recalls was down to fan demands and sales figures: "The C64 game didn't do as well as the Spectrum release, so Ian decided to make the games more similar."

Also, Tony had left Gremlin, leaving Pete entirely in control of the game's direction, which was defined by the Spectrum's capabilities. Even so, the games didn't turn out identical, due to the C64's masterful Rob Hubbard soundtrack (see 'Number-one score') and some graphical additions, which Pete says were

MOLEY CHRISTMAS

THE LAST CLASSIC *Monty Mole* game appeared as a Christmas gift for readers of *Your Sinclair*. Issue 25's covermount was the exclusive *Moley Christmas*, boasting six single-screen locations into which the essence of *Monty On The Run* had been distilled. The game had an ever-decreasing energy meter, so demanded fast reactions and quick thinking to solve puzzles and progress through the Gremlin Graphics HQ, mastering and duplication plants, the M1, and the offices of *Your Sinclair*. The final location finds Monty delivering the mag to a newsagent while braving traffic on a busy road – a cute riff on *Frogger*.

"We did the game as a favour to Ian and kept it quite simple, because it was to be given away on a mag," recalls Pete. "But we certainly still wanted to give value to the *Monty Mole* concept. The limited amount of time we had to develop the game was what led to more having to be done per screen. But that also meant we got more time to spend tweaking each location, even though the total development time was much less than for previous *Monty Mole* titles."



» [Spectrum] Monty attempts to thumb a lift on the M1 in *Moley Christmas*.



» [Spectrum] Why Monty can't settle on this sunny island at the start of *Auf Wiedersehen Monty*, we'll never know.







» [Spectrum] Shark in the mine! Health and safety's going to have a field day.

"absolutely what I'd have chosen myself" and made the conversion "the better of the two *On The Runs*."

The conversion was done by Micro Projects Limited, set up by Jason Perkins (now director of Curve Studios), Tony Clarke and Mark Rogers. Jason remembers how Pete gave the team level designs and artwork, including printouts of Spectrum sprites, which were meticulously re-created on the C64, pixel by pixel. Data dumps were provided for background tile sets, but these needed amending, as Jason explains: "One advantage the C64 had over the Speccy was its 40-character display, compared to 32 on the Sinclair machine. This meant a straight port would have left blank areas at the side of the screen." The solution was mostly to centre the 32-character screens of the Spectrum version and fill the remaining space with additional artwork. "We also made a number of original objects – plant pots, wine bottles, traffic cones – that we could place anywhere on the screen to help disguise areas where the duplication of rows looked a bit obvious," he adds.

This approach might seem a bit 'bare minimum', but Jason remembers that Gremlin had given Micro Projects only four weeks to complete the conversion. Also, the decision to go with high-res Spectrum-style graphics came after experimentation.

"We tried using the C64's twin-pixel multicoloured mode, but it was difficult to get anything looking good, and the deadline meant redoing all of the art wasn't really an option," says Jason. Although the team had the C64's extra memory, it lacked time, and so ambitious plans to code a full-scrolling C5 section had to be abandoned. "But, to be honest, the Spectrum game was in such good shape when we got involved that it was a fairly straightforward development to get it up and running on the Commodore," considers Jason. "And we were very happy with the finished game, which was reflected in the reviews. We knew it was good."

MINI MOLE

Jason also worked on another *On The Run*, this time for the C16. "That could have been a great home computer, but Commodore released it without hardware sprites. And with the hardware flopping in the US, the company dumped it in Europe, meaning there were loads of units around," grumbles Jason, who tells us that Commodore sent him, out of the blue, a free machine and disk drive, hoping he'd develop games for it. Ten C16 titles were sold to Gremlin by Micro Projects, but the company closed by the time the *On The Run* order arrived, and so Jason teamed with Terry Lloyd, who he remembers was "a big fan of the *Monty Mole* series and a great graphics artist and level designer".

With no hardware sprites and only 16K of RAM available, the game had to be stripped back, without losing its essence. "We established that we could only have four moving sprites on the screen at once, including Monty, so went to work filleting the existing levels and reducing the overall content," explains Jason. "We felt as long as we kept the main control system for Monty, maintained the frantic dodging of moving objects and kept the crushers, the conversion would be possible."

The team used the same trick as with the C64 version, stretching the edges of the map to fill the 40-character screen, although major redesigns perhaps made that less necessary; elsewhere, other than Monty, it was determined that all moving objects would only travel horizontally or vertically. "It was a simple process to pre-pixel-scroll the moving characters at the start of each screen," says Jason.

Although simpler than the other 8-bit versions, the C16 conversion was lauded by the press, with *Commodore User* awarding it a

NUMBER-ONE SCORE

THE C64 VERSION of *Monty On The Run* was an impressive, great-looking conversion, but it was Rob Hubbard's soundtrack – often considered the C64's best – that really set it apart from other games of the day. "It was based on a tape Gremlin sent me [of *Devil's Galop*] and they asked me to do something similar, so I expanded it as much as I could and added some additional parts," recalls Rob. "The solo in the middle was the result of a pitch-bend routine I'd added to the player, and everything was 6502 assembler and hard coded in '.byte' statements. I basically coded a guitar-type solo I worked out on a piano until it approximated what I heard in my head, as it were! There was also a third section at the end, which was a frenetic build-up to the climax, before the music looped. Add in the sound effects and the whole thing was less than 5KB!"

Screen Star and declaring it the "definitive C16 platform game". Jason remains happy with the conversion, which was completed on time, in just a few weeks. More importantly, it captured the key gameplay elements of the *Monty Mole* series: "The C16 community was happy as, for once, a publisher was taking the machine seriously and developing a well-respected franchise for it, rather than releasing a pile of old crap to make a quick buck."

GOODBYE, MONTY

Back on the Spectrum, the final commercially released *Monty Mole* title Pete worked on was *Auf Wiedersehen Monty*, presumably intended, given its title, to be the character's swan song. The game took the basic blueprint from *Monty On The Run*, but tasked Monty with exploring Europe, his aim being to earn enough cash to buy an island. This was achieved by picking up money carelessly left lying about, along with pilfering objects and selling them on. The opaque puzzles combined with irritating new features – an annoying in-game arcade sequence where you attack a biplane with your craft's propellers; control-reversing wine pick-ups; icy areas where Monty randomly slides about – resulted in a game that lost the purity of its predecessor. On the Spectrum, at least, it rated highly, but *Zzap!64* slammed the C64 conversion, arguing that "even the most ardent of *Monty* fans is likely to be disappointed".

Pete isn't quick to defend his creation. "We overworked it," he admits. "We tried to do a lot more with *Auf*, and quite a lot of it worked, but there were not enough genuinely new ideas and they felt a bit forced." He recalls enjoying creating the map – "We got a lot more screens in, with a nice representation of real European locations" – and liked the sticky platforms that Monty could walk on, upside down. But the drunk mode? "Yeah, that was contrived… The entire game was a bit like how *Jet Set Willy* felt to me – it lost a bit of fun and originality in trying to add too much."

Still, Pete at least gave Monty some breakdancing lessons. "That was due to Ben [Daglish] doing such a popping tune. I looked at the graphics we'd done and thought they could be strung together into a dance. When I tried that, I couldn't stop laughing, so they stayed." He says game development can be like that, and you should never be afraid to deviate from the plan and try something for the fun of it. "One reason I stopped coding ten years ago was the restrictions placed on us by 'producers', one being 'thou shalt not deviate from the schedule'." Should *Auf Wiedersehen Monty* have perhaps had more deviations? "Well, maybe more time. It's not a game too far, but a game too early," considers Pete. "It needed longer before we created it, for it to be more original. But then I also stand by the principle that appears as true for games as films: never watch the third of a trilogy, because all the best stuff was used in the first two!"

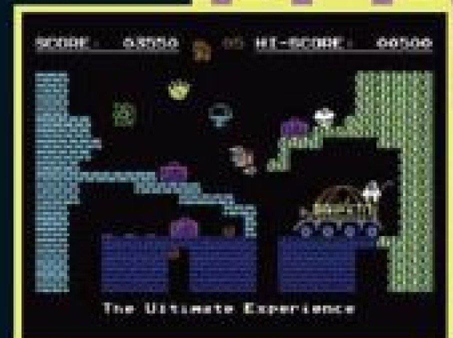
> **"Where else can you do somersaults as a fat, one-eyed mole with a coal fixation?"**

IMOLE

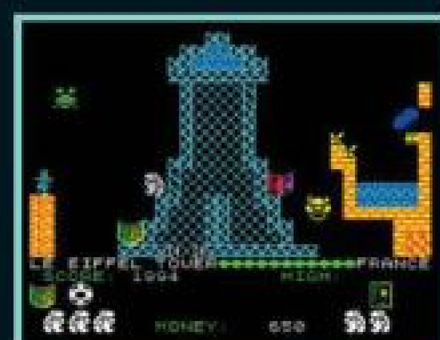
Bar an appearance on a covermount (see 'Moley Christmas') and a Core-designed outing so at odds with other *Monty Mole* games that it barely qualifies as an entry in the series ('*Impossamole*'), our bug-chomping chum has been silent for two decades, but Pete plans to resurrect the character. "I have two *Monty* games in my head. One is a full-on original, with all-new content. The other is a tribute to my favourite – *On The Run* – with tweaks to omit things that now irritate me," he reveals. Some changes are to be minor – ditching the cloud lift in the second screen, for example – but others should prove very interesting: "There will be achievements and different ways of playing the same map, including training maps and a multiplayer mode that might include *Thing On A Spring*-style slippers."

The game is slated for a 2012 release on iOS (see **harrap.net** for progress reports), and Pete's experimenting with control methods to ensure that Apple's buttonless device doesn't lead to myriad dead moles: "Imagine touching Monty and sketching where he goes, tapping to make him jump. Another method involves gesture-based swipes and flicks. Both are intended to be intuitive." And, as you might expect, this is a labour of love for the veteran games designer: "I'm doing it because I enjoy it. It won't cost much, and hopefully it'll bring a smile to players, old and new. My grandson keeps asking when it'll be ready, and he's only four!"

To close, we ask why Pete thinks Monty's so fondly remembered, especially considering how frustrating some of the screens in his games are. "I hope it's because they were fun to play," he begins, "but, for me, it's because where else can you do somersaults as a fat, one-eyed mole with a coal fixation? Now, where's me jetpack?"



» [C64] It's a mole! In a jetpack! 50 billion times better than *Impossamole*'s superhero rubbish.



» [Spectrum] And we always thought the Eiffel Tower was taller than a dozen upright moles…

IMPOSSAMOLE

GREMLIN'S FINAL CRACK at a *Monty Mole* game arrived in 1990. Created by Core Design, *Impossamole* had the odd nod to earlier games in the series – crushers, a mine cart in the first level – but the gameplay was far closer in feel to Core's own *Rick Dangerous*. Also, Monty had the ability to kick his foes' faces off and was, at times, armed to the teeth. Monty with a bazooka is a far cry from an insectivore scrabbling around for a bit of coal to keep warm.

The result was a title that divided opinion, between those who enjoyed the lush graphics and challenge and those who didn't care for its sluggishness, excessive difficulty and lack of innovation. Pete wasn't impressed by what he saw: "I never played it and didn't like the idea." Still, he admits that "there might be a cape power-up in the iOS *Monty On The Run* multiplayer maps".



» [Spectrum] Monty forlornly looks on in *Impossamole*, the mine cart reminding him of better times.

THE UNCONVERTED

Arcade games that never made it home





IN DEPTH

» The gameplay of *Major Havoc* is divided into three different sections: a shooter part, a landing bit and a side-scrolling platformer stage.

» The controls were fairly original. You steer Havoc and the Catastrofighter using a vertical trackball (allowing only x-axis movement).

» Between stages, you get to play a *Breakout*-style minigame that enables you to win extra lives and even warp to later levels.

MAJOR HAVOC

■ **Developer:** Atari ■ **Year:** 1983 ■ **Genre:** Shoot-'em-up

■ **Designed and programmed by Owen Rubin, with contributions from Mark Cerny, *Major Havoc* is an epic multipart space mission presented in striking vector visuals.**

A courageous leader and skilled pilot, hero Havoc has been cloned by scientists, and he and his posse of doppelgängers have to stamp out the last of a nefarious robot race that has enslaved mankind. The mission is split into three sections. The first takes the form of a vertical shooter that sees you having to take down a phalanx of enemy ships from inside Havoc's ship, the worryingly named Catastrofighter.

The next part involves you having to carefully dock the ship on the enemy base. And the final section takes place inside enemy ships, and sees the Havoc using his shield and agility to traverse their maze-like insides, avoiding enemy drones, lasers and gun turrets to reach the ship's reactor and set it to self destruct.

With his objective complete, Havoc must then dash back to his ship before the enemy ship blows up. It's pretty rousing stuff, and having the action divided into multiple sections ensures it never gets dull and also holds wider appeal.

One of the best aspects of *Major Havoc* is its impressive presentation. For a hero made up of black space and simple lines, Havoc conveyed an impressive amount of character thanks to Rubin giving him some humorous animations – impatiently tapping his feet or taking a rest on the reactor if left passive for too long.

Major Havoc is one of the most entertaining vector arcade games ever created, so it's amazing that it never received a home conversion. The cause of this most likely lies in the fact that it apparently didn't do huge numbers on its release. Released in 1983, only a few hundred units were ever shipped by Atari, and the reason for this is said to be because at the time arcade operators were starting to tire of the inconvenience and cost of vector machine's breaking down.

If you do want to experience this vector gem, though, it was later included in *Atari Anthology* for the Xbox, PS2 and PC, and was also released on Microsoft's Game Room service.



CONVERTED ALTERNATIVE

WIZARD OF WOR 1981

It's a tricky one because *Major Havoc* is truly one of a kind. It's a tenuous link but we're recommending Midway's superb dungeon-based two-player action title *Wizard Of Wor*, purely for its tense gameplay and maze-style playing field.

RIOT

■ **Developer:** NMK ■ **Year:** 1992 ■ **Genre:** Shoot-'em-up


» [Arcade] Yes that is RoboCop impaled on a spike. Yep, *Riot* seems to relish in being weird.

■ ***Riot* can be** seen as the insane, hyperactive, bastard child of *Contra* and *Cabal*. This on-rails shooter sees two Bill and Lance copycats trying to thwart an army that relies on special weapons and sorcery to do its evil bidding. With gameplay more *Cabal* than *Contra*, players are basically in the middle of a danger sandwich, surrounded by enemies occupying the foreground and background.

Thankfully the controls are kept nice and simple – one button to fire in one direction, a second for the other – and the sidelong road to victory is paved with plenty of things that can be used for cover. With the action taking place inside places such as a department store and an amusement park, and bosses that include an evil Yoda and a giant gorilla in a leather waistcoat, *Riot* definitely has its tongue firmly in its cheek, and at times almost feels like a parody of the shooter genre. It also has a strange obsession with seeing its two heroes fall through the air, and opens with the most nonsensical arcade attract screens we've even seen. It shows Player One's soldier blowing up a helicopter with machine gun fire. That's it. No explanation, just that bizarre scene.

CONVERTED ALTERNATIVE

NAM-1975 1990



Riot shares common ground with SNK's *NAM-1975*, given its scrolling levels, insane bosses and two-player action (with the heroes here called Silver and Brown). It was released in arcades as well as Neo Geo and Neo Geo CD.

CONVERTED ALTERNATIVE

NINJA COMMANDO 1992



This top down fighter/shooter from Alpha Denshi is basically *Darkmist* with ninjas… three of them, to be exact. It too features a varied assortment of weapons, a smattering of bosses and was released for the Neo Geo CD.

THE LOST CASTLE IN DARKMIST

■ **Developer:** Taito ■ **Year:** 1986 ■ **Genre:** Scrolling fighter


» [Arcade] There's not much to *Darkmist*; it's a simple hack and shoot affair. It's better than *Mad Crasher* though.

■ **This forced vertical** scrolling fighter sees you assume the role of a lone knight on a mission (we assume in analysis of the title, as there is no in-game story explaining his actions) to find a castle that's been misplaced in a place called Darkmist. As the camera scrolls up hordes of monsters and magical creatures march down, poised to attack our gallant knight and stop him in his quest. This is broken up by a large helping of boss fights. Our knight can slay his enemies using his sword, or with a projectile attack. And by nipping quickly into shops, visiting villages, and speedily smashing open treasure chests dropped by dead enemies (as the camera doesn't wait), he can also pick new swords to increase his attack power and alternative spell attacks, none of which are particularly satisfying to wield. With bland level design – there was one instance where the camera sat still for a minute and we had to find our way out of a dungeon maze – *Darkmist* is a forgettable attempt at fusing the RPG and scrolling fighter genres together.

BEST LEFT IN THE ARCADE

MAD CRASHER

■ **Developer:** SNK ■ **Year:** 1984 ■ **Genre:** Shooter

■ **This isometric racing** shooter features a furious death race in what looks a little like a super-charged Sinclair C5. The gameplay is pretty straightforward. Simply survive for as long as you can on a treacherous bit of floating track in a mundane-looking environment. You have to share the road with rival cars and as the slightest prang will cause your car to explode into a ball of nothing; you must therefore evade or blast away these vehicles with your front-mounted guns to stay alive. As well as deadly motorists, you must also look out for breaks in the track, which you can clear with a well-timed jump, and also make sure to run over speed boosts that allow you to shunt the other cars without the fear of dying instantly. Lacking any real sense of speed and excitement, and disappointingly bland visuals, this is an unremarkable title in the SNK stable that we're not surprised was never allowed to frolic free on home systems.





THE HISTORY OF

SPACE HARRIER

When Sega unleashed Space Harrier in 1985, it delivered a unique gaming experience that was as exciting to play as it was exhilarating to watch. Darran Jones heads back to the fantasy zone for one last blast

It's sometimes easy to forget just how big a deal *Space Harrier* was when it was first released in arcades at the end of 1985. While the shoot-'em-up genre was doing very well thanks to the likes of *R-Type* and *Gradius*, gamers were left wanting more exciting variations.

Developer Yu Suzuki answered this call with *Space Harrier*, an absolutely mesmerising shooter that not only helped spawn a brand new sub-genre – the on-rails shooter – but also improved on the excellent sprite technology that Suzuki had first introduced in *Hang-On*.

The technology in question was called Super Scaler, and *Space Harrier* was the second of many Sega games to utilise it. *Space Harrier* was already



an impressive-looking game thanks to the System 16 board that powered it, but the Super Scaler tech allowed Suzuki to create some impressive and imaginative visuals that still impress today. In an interview at GDC 2011, Yu Suzuki revealed that he wasn't pleased with the speed of polygons at the time of *Space Harrier's* release and was looking for a way to make his game as frantic and fast as possible. Super Scaler technology allowed him to do just that.

Space Harrier put the player in the shoes of the titular character, a hardened Arnie clone who boasted the ability to fly and could also handle a huge laser cannon under his arm as easily as a child holds a pencil. Set in the Fantasy Zone, the same world that had appeared in Sega's earlier arcade shoot-'em-up *Fantasy Zone*, the core gameplay consisted of your Harrier thundering along and blasting away any enemy that gets in his way.

The most interesting aspect of *Space Harrier*, though, is that it started off as a completely different game under the lead of another developer. Suzuki ended up taking over the project when the team wasn't getting anywhere with the game's 100-page design document.

"Originally, the game was set in a realistic setting with a jet that shot missiles into the foreground," revealed Suzuki in 1UP.com's 'The Disappearance Of Yu Suzuki' interview in 2010. "With a jet airplane, a game requires a lot of pattern change data to move back and forth across the screen, so I had to simplify

the airplane to the character we ultimately used." Suzuki also mentioned in his GDC interview that the size of the plane would sometimes obscure enemy flight patterns, meaning they needed something smaller for the main character. Thankfully, he managed to find a solution in time for the *Top Gun*-inspired *After Burner*, which appeared in 1987.

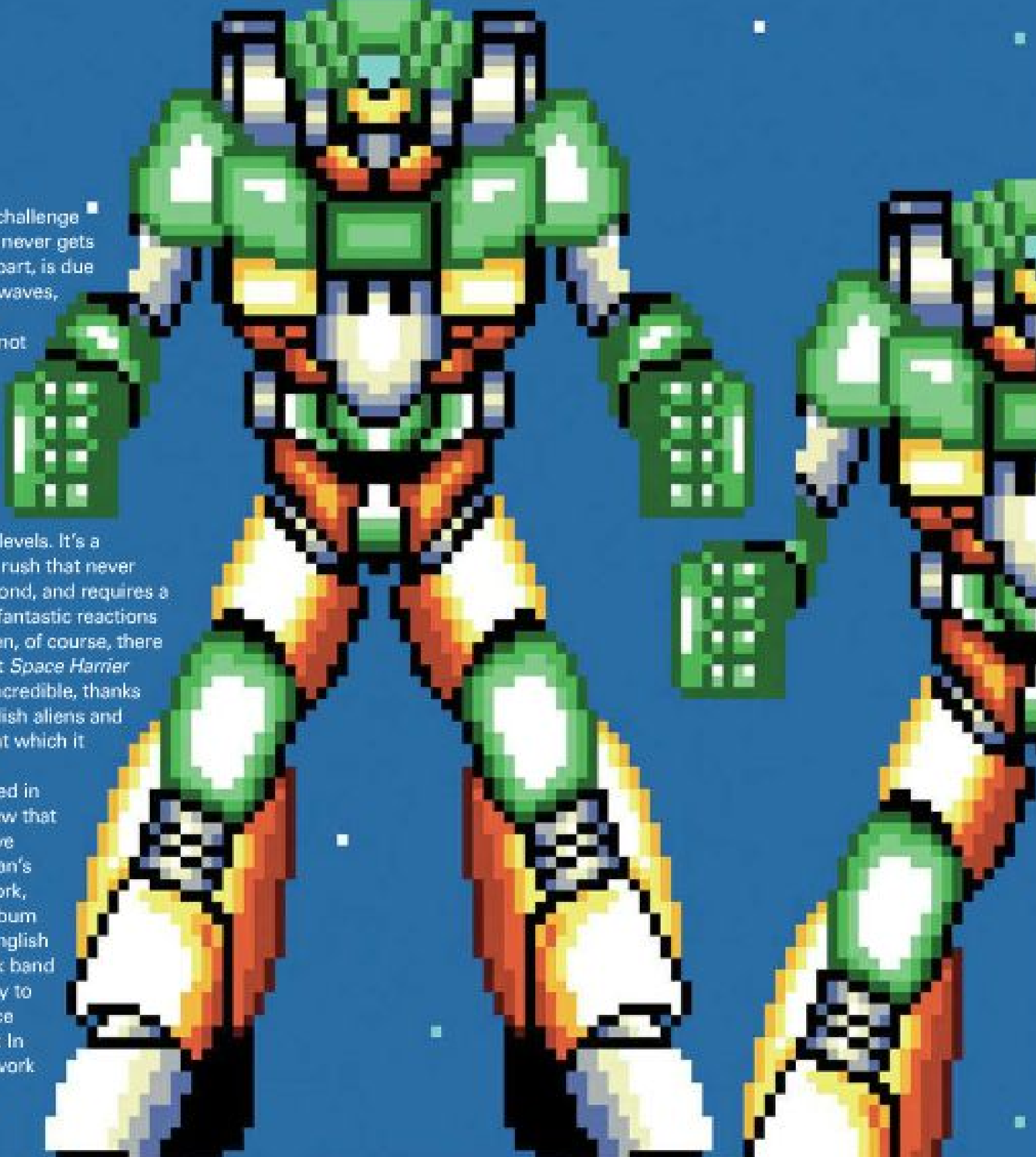
Suzuki also revealed that arcade testing was another reason why the jet was replaced with a far hipper flying space man. When *Space Harrier* was first tested in arcades, it did poorly, and Suzuki found himself back at the drawing board. Eventually, *Space Harrier*'s inspiration came from two very unusual sources: the film adaptation of *The NeverEnding Story*, and a Japanese manga called *Cobra*, which featured a character whose arm could turn into a gun.

Suzuki started anew, and, inspired by the fantasy art of Roger Dean, began creating the fantastical world that would eventually become the Fantasy Zone. It's also worth noting that the technology of the time was another reason for *Space Harrier*'s distinctively surreal look. "The hardware memory was very limited, so something like a huge mushroom was very appropriate because it didn't use up too much memory," continued Suzuki in his GDC interview. "From that perspective, we simply began utilising less memory-intensive items and the game began like that."

Despite numerous good ideas, getting *Space Harrier* off the ground wasn't an easy process, mainly because Sega was adamant that a 3D game simply wouldn't sell, as no 3D shooter had ever succeeded before. Suzuki was adamant, however, and decided to get to the core of the research to find out how he could improve his project's chances. "I asked [market research] why the other games didn't succeed and they told me it was because the target is too small," he explained in his interview with 1UP. "Based on that, my conclusion was that I basically had to make sure the player could hit the target. So, I made a homing system that guaranteed that the target could be hit. When the target was close, it would always hit, but when the target was in the distance, the player would miss. So the result of whether the player would hit the target or not was determined the second the player took the shot."

It could be said that *Space Harrier* is a ridiculously simple shooter, but there's enough challenge to ensure that it never gets boring. This, in part, is due to clever attack waves, numerous large objects that cannot be shot and so must be avoided, and the imaginative bosses that await you at the end of 16 of *Space Harrier*'s levels. It's a pure adrenaline rush that never lets up for a second, and requires a steady eye and fantastic reactions to master it. Then, of course, there was the fact that *Space Harrier* looked simply incredible, thanks to some outlandish aliens and the sheer pace at which it actually moved.

Suzuki revealed in his GDC interview that he was a massive fan of Roger Dean's distinctive artwork, especially his album covers for the English progressive rock band Yes, and it's easy to see that influence in *Space Harrier*. In addition to the work of Roger Dean, the memorable enemies and







"Space Harrier was an experience that would be virtually impossible in the home"

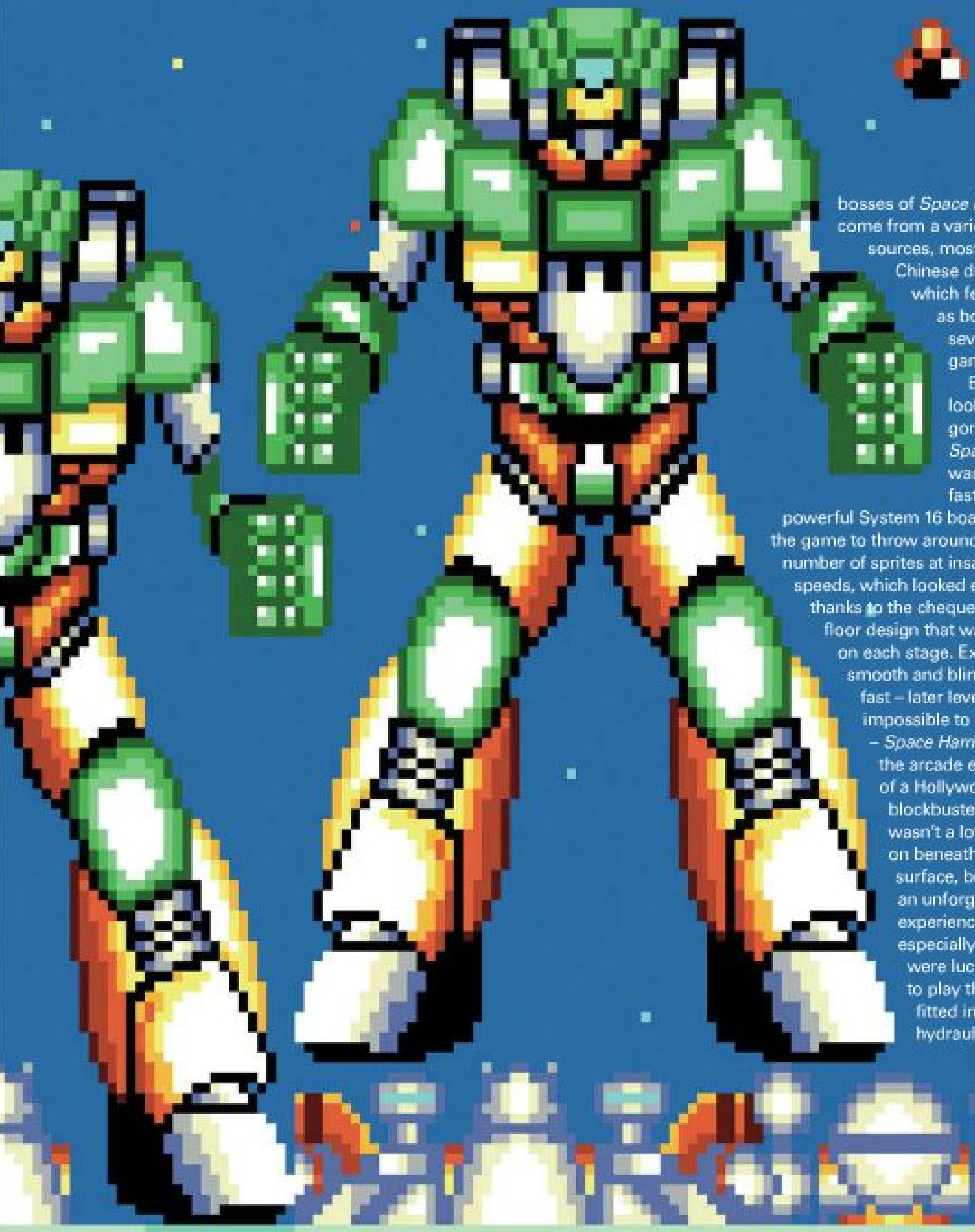






» [Arcade] As well as a Dreamcast port, *Planet Harriers* was rumoured to be getting a release on Nintendo's GameCube.

» [Arcade] *Space Harrier*'s bonus stage is a direct reference to *The NeverEnding Story*, a film Yu Suzuki had enjoyed at the time.



bosses of *Space Harrier* come from a variety of other sources, most notably Chinese dragons, which feature as bosses in several of the game's levels. Beyond looking gorgeous, *Space Harrier* was also fast. The powerful System 16 board enabled the game to throw around a large number of sprites at insane speeds, which looked even faster thanks to the chequerboard floor design that was found on each stage. Extremely smooth and blindingly fast – later levels can look impossible to onlookers – *Space Harrier* was the arcade equivalent of a Hollywood blockbuster. There wasn't a lot going on beneath its surface, but it was an unforgettable experience, especially if you were lucky enough to play the version fitted in a huge hydraulic chair.

As your Harrier zoomed around the screen – bullets would home in on your last position, forcing you to constantly stay on the move – the hydraulic chair would shift around with him, delivering an exciting experience that definitely ensured that you got your money's worth from each play. This, along with its true analogue flight controller, made *Space Harrier* an arcade experience that would be virtually impossible to re-create in the home.

That didn't stop developers from trying, though, with numerous efforts appearing on everything from the Commodore 64 to Nintendo's NES. Many of the ports varied in quality, as home systems struggled to emulate *Space Harrier*'s Super Scaling hardware. Speed was often the main killer for most versions, with the home 8-bit computers and consoles failing to capture the same sensation of movement that made the arcade game so exciting to play. Although decent ports – most notably the Amiga version – do exist, it wouldn't be until the 32X that *Space Harrier* would receive an arcade-perfect port.

Interestingly, while *Space Harrier* was a big success, it was 15 years before it received an arcade follow-up. Instead, it would be Sega's home consoles that continued the Harrier's adventures in the Fantasy Zone.

The first *Space Harrier* sequel turned up on the most surprising console of all: Sega's Master System. This was something of a strange choice, because while the Master System version of *Space Harrier* hadn't been a complete travesty of a port – it, along with the Game Gear variants, was perfectly acceptable considering the hardware – it didn't really come across as the best system to show off the technology that had made the original such a joy to play in the arcades.

The big draw of Sega's Master System sequel was that it was one of several games on the console to be in 3D, something that Sega was pushing quite aggressively at the time of *Space Harrier 3D*'s release. Many believe *Space Harrier 3D* to be a simple port of the original arcade game with gimmicky 3D, but this is far from the case, as it's a completely different game to its arcade predecessor.

It features new enemies and bosses, more indestructible objects to navigate past, and also introduces dangerous new elements such as phallic towers that grow in size at the very last moment, giving you very little time or space to manoeuvre

Flights of Fantasy

THIS WOULDN'T BE a complete guide to *Space Harrier* if we didn't mention these two oddities. *Typing Space Harrier* was released in 2002 and was extremely similar in concept to Sega's famously bizarre *The Typing Of The Dead*, which had been released three years earlier.

Only available in Japan and confined to Windows PCs, it plays almost identically to *The Typing Of The Dead*. Waves of enemies and bosses appear along with sentences, and you must destroy them as quickly as possible by typing out the words as simply as possible in romaji. It starts off easily enough providing you understand Japanese, but bigger enemies require you to type in even bigger words and sentences to defeat them.

Equally interesting, and far more playable, is *Space Fantasy Zone*, which was originally going to be released for the PC Engine Super CD-ROM^2. Created by NEC Avenue, it successfully marries the ultra-cute visuals of *Fantasy Zone* to *Space Harrier*'s tried-and-tested gameplay mechanics, and has *Fantasy Zone*'s Opa-Opa taking down waves and waves of enemies, taken from both *Fantasy Zone* and *Space Harrier*.

As with *Planet Harriers*, downed enemies drop coins, which can be spent in a weapon shop called Weaponalds, and there's a large selection of different power-ups to choose from, including shield boosts, huge weights and even the ability to stop time for escaping sticky situations.

The scrolling isn't particularly smooth and the lack of different-sized sprites makes it harder to judge distances between enemies, but the gorgeous visuals and excellent remixed tunes – again, borrowed from both *Space Harrier* and *Fantasy Zone* – ensure that *Space Fantasy Zone* is definitely worth experiencing. It's just a shame that it never received an official release.

out of their way. While it starts off with the same iconic tune that graced *Space Harrier*, it includes a number of additional compositions. They're not as catchy as the theme from the original, but they do suit the hectic on-screen action.

There's an altogether darker tone to *Space Harrier 3D*, with it largely ignoring the bright pastel hues of the original game in favour of far darker, more ominous colours. This sombreness is most likely down to the new plot that has the titular Harrier trying to rescue Uriah, the dragon you occasionally rode in *Space Harrier*'s bonus stages.

Space Harrier 3D was designed to highlight the Master System's 3D Glasses, and for the most part it succeeds admirably. The effect was handled very well, and like many games that used the device, *Space Harrier 3D* featured a nice level of depth, useful for avoiding incoming objects. Less useful, however, was the jerky scrolling, an unfortunate side effect of the 3D – and the high difficulty of the game. It remains an enjoyable addition to the series, though, even if it did deliver little over the original game.

Space Harrier's second sequel came less than a year after *Space Harrier 3D* in the shape of *Space Harrier II*. Quite a big stir was created at the time of its release because it was to be a launch title for Sega's Mega Drive. Released alongside *Super Thunder Blade* when the Mega Drive made its Japanese debut in October 1988, it was Sega's way of telling people that the only way to get an arcade-like experience was to buy its new machine.

Space Harrier II, like *Space Harrier 3D* before it, played things safe and stuck very closely to the format that had worked so well for *Space Harrier*. Although it was now possible to choose which of *Space Harrier II*'s 12 levels you started on, all 12 had to be completed before you could battle a final gauntlet of bosses.

While the Mega Drive couldn't compete with Super Scaler hardware, *Space Harrier II* was nonetheless an impressive release, featuring well-detailed sprites and a fast pace that was a world away from the slower Master System games. The enemies and sprites were far more imaginative than those found in *Space Harrier 3D*, although they still lacked the bizarre factor of *Space Harrier*'s weird and wonderful creations, and it proved beyond question that Sega's console was an arcade fan's dream. Ultimately, however, it was business as usual, and it would be another 11 years before a new game was added to the *Space Harrier* canon.

That game took the shape of *Planet Harriers*, a two-player arcade game that Sega released in 2000. It was a massive shot in the arm for the franchise, delivering plenty of new gameplay mechanics. By far the best addition was the excellent lock-on system, which greatly changed the way *Planet Harriers* played compared to past games in the series as an alternative to a more traditional rapid-fire gun. The new weapon was represented by a lock-on fuel bar, which enabled you to lock on to a set number of enemies before being depleted. It delivered a pleasing level of strategy to proceedings, as you could now pick and choose the best waves to lock on to. There





» [iOS] *Space Harrier*'s most recent outing was a port of *Space Harrier II* on iOS.

Super Scalers

There were lots of Sega games that featured impressive sprite-scaling technology. Here are a few of our favourites



Hang-On

Year Released: 1985

Hang-On was the first of Sega's games to utilise Super Scaler technology. As famous for its huge sit-on motorbike cabinet as it was for the gut-churningly fast roads you raced on, it's a typical Sega game, with a firm focus on arcade thrills and spills. It's long been superseded by its 1987 sequel, *Super Hang-On*, but the original remains an important racer and a fitting beginning for Sega's Super Scaler technology.



Enduro Racer

Year Released: 1986

Unlike *Hang-On*, *Enduro Racer* has you racing around on a dirt bike and boasts far more dangerous courses than the smooth tarmac of Yu Suzuki's earlier game. In addition to dodging other riders, you also had to keep an eye out for trees, rocks and logs that would litter the course. You could additionally pull back on the handlebars when approaching logs to send your bike soaring satisfyingly into the air.



OutRun

Year Released: 1986

For many, *OutRun*, along with *Shenmue*, represents Yu Suzuki's finest moment. Inspired by *The Cannonball Run* and Suzuki's own journeys around Europe, *OutRun* features gorgeous visuals and some fantastic music. Not so much a racing game but more a driving experience – time, not other cars, is your enemy – *OutRun* is a fantastic game that helped cement Yu Suzuki's reputation as the king of the arcades.



After Burner

Year Released: 1987

After failing to get a jet to work in *Space Harrier*, Yu Suzuki bounced back with the excellent *After Burner*. Shamelessly based on *Top Gun*, it's another gut-wrenching thrill ride, which, like *Space Harrier* before it, came in an awesome hydraulic cabinet version. It lacks *Space Harrier*'s bosses, but it's easily the better game thanks to far more challenging enemy attack patterns and greatly refined technology. Great music as well.

were also four distinct characters to choose from at the start of the game that range from a sexy nurse to a baseball star. Lives are no longer used either, with your Harrier now having a specific number of hearts, which are depleted whenever you get hit by *Planet Harriers*' many enemies. Characters are also blessed with a handy boost attack, useful for dodging incoming enemy fire.

Downed enemies drop gold, which can be collected and used in the Star Shops found during and at the end of *Planet Harriers*' five stages. These handy stores not only provide a brief respite from the truly hectic action that takes place outside them, but also give you access to a number of useful power-ups that range from the ability to restore your health to increasing the size of your lock-on fuel and heart bars.

Designed for one or two players, one particularly nice element of *Planet Harriers* was that it was possible to share energy between players, or increase the size of each other's life bars. This sharing element was handy, as *Planet Harriers* was a tough game that featured some outrageous bosses. There's a massive hydra that belches out huge gouts of flame, an evil giant eye with a devastating range of weaponry, and the ominously named Star Eater, an immense, many-tentacled beast with some nasty attack patterns to master.

Planet Harriers was also a stunningly beautiful game, with an impressive variety of environments crammed into its levels. One was reminiscent of the Speeder Bike chase in *Return Of The Jedi* and had you tearing through an autumnal forest and another had you flying through dangerous volcanic caverns, while the opening stage featured *NiGHTS*-style pastures and blue skies. Powered by Sega's Hikaru arcade board, it was announced for the Dreamcast but never received a port.



[Master System] The enemies in *Space Harrier 3D* aren't as imaginative as its arcade predecessor. We're guessing Sega likes *Star Wars*.

"Space Harrier II offered people an arcade experience at home"

And that sadly ends the *Space Harrier* saga for the time being. Sega has certainly toyed with the franchise in a number of ways in the intervening years, but not to any great degree. *Space Harrier* appeared on the PS2 courtesy of Sega's *Sega Ages* range, and, unlike similar Sega updates, was pretty good. The sprites became polygons, and new power-ups – including smart bombs, a useful shield and a lock-on laser – were also added. Caught halfway between a port and an all-out remake, it's a nonetheless interesting game, and the UK compilation on which it features can be found relatively easily. A second *Sega Ages* compilation was released in 2005 and features reasonably accurate ports of *Space Harrier*, *Space Harrier 3D* and *Space Harrier II*, while other standalone ports, most notably the original arcade game and *Space Harrier II*, have appeared on the Wii's Virtual Console and iOS.

Space Harrier's simplicity and accessibility is arguably one of its biggest strengths, but it's also possibly the reason why Sega has been reluctant to return to the franchise in any meaningful way, as its core gameplay would lack substance for today's more discerning gamer. We're still hopeful for the franchise, though, and with Sega seemingly intent on delivering genuinely excellent digital content like *Daytona USA*, *Guardian Heroes* and *After Burner Climax*, we're hoping that *Space Harrier* receives the airing it so obviously deserves.

Special thanks to Kurt Kalata and Hardcore Gaming 101 for help with this article.



Power Drift

Year Released: 1988

The biggest draw of *Power Drift* was its ridiculous elevated tracks. Structured like crazy rollercoasters, tracks featured insane drops and steep climbs that proved fantastic fun to race around. *Power Drift* was also full of plenty of charm and character thanks to the roster of 12 racers, who would get animated as they tore around the cleverly designed tracks. It's another superb offering from developer Yu Suzuki.



Galaxy Force II

Year Released: 1988

This super blaster takes the best elements of *Space Harrier* and *After Burner* to create one of Sega's best shooters. Its slower pace makes it a lot easier to play than its peers, while the level design is absolutely stunning, particularly the fire stage, which features gigantic dragons that erupt from the planet's surface. It features nice gameplay mechanics such as a rapidly depleting energy bar and branching levels.



Konami's shoot-'em-up *Gradius* became an incredibly successful franchise for the Japanese developer, going on to spawn numerous sequels over the years and remaining a firm favourite with shoot-'em-up fans everywhere. By far one of its best legacies, however, is the delightfully nutty little spin-off franchise *Parodius*, which first made its appearance on the underrated MSX. Utilising the core values and gameplay mechanics of Konami's original 1985 arcade hit, it sugar-coats the familiar setting with insanely chirpy tunes, a new selection of ships (including an oh-so-cute Vic Viper) and some of the craziest videogame adversaries to ever get pixelated. In short, it's as magnificent as it is insane.

TWINBEE

TwinBee was already a fairly established Konami character thanks to his appearance in the *TwinBee* arcade game that had been released in 1985. The anthropomorphic spacecraft with a penchant for punching enemies with his fists perfectly suits the crazy atmosphere and boasts a nice range of power-ups.

OCTOPUS

This cute little octopus wasn't based on a previous Konami character, having been created exclusively for the franchise. Rumours, however, point to his inspiration coming from the huge cartoon octopuses that would be found outside Japanese restaurants. All we know is that the little fella is adorable.

PENTAROU

Pentarou is the son of Penta, who appeared in Konami's *Antarctic Adventure* in 1983. Massively popular in the Eighties (he was often used with his father as Konami's mascot) the absurdity of a flying penguin makes him a perfect fit for Konami's nutty franchise.

VIC VIPER

First making his appearance in *Gradius*, this is a new, slightly podgier but much cuter version of the iconic arcade spacecraft. Despite his newfound cuteness, Vic Viper still packs a formidable punch, having all the power-ups strengths and weaknesses of his alternate *Gradius* version. You certainly don't want to mess with him.

WHY IT'S A CLASSIC



It's a crazy cocktail

Parodius (or *Parodius Da!* as it is also known in Japan) is a classic game because it not only manages to build on its 8-bit predecessor, but also respects its source material. Everything about *Parodius* is mental, from its fast-paced renditions of classical music to its tongue-in-cheek references to past *Gradius* enemies, bosses and levels. And yet, beneath the gaudy visuals, kooky bosses and nutty enemies lies a shoot-'em-up that's just as good, if not better, than the game it mocks. The juxtaposition between hardcore shooter and fluffy adversaries makes for an enticing cocktail that still manages to impress.

BEST STAGE



Start as you mean to go on

There are plenty of superb stages in *Parodius*, but we'll confess to loving the first stage of Konami's blaster the most. It's brilliantly paced, and sets the standard for the craziness to come. Everything starts off innocently, with the typical black space of *Gradius*. Then the blackness fades away, replaced by gaudy greens and sparkling blues. Penguins attack en masse, plump killer whales leap through the waters, and oversized generators spit out swarms of bees. It gets crazier with a mid-level boss that takes the form of a pirate cat/balloon, and a final encounter against an oversized pirate penguin.

BEST PARODY



The Showgirl

While the MSX original was wonderful, the improved visuals that Konami's new TMNT2 board offered made its insane world come to life. Lampooning is great when it's done well, and Konami has always been on fire with its *Parodius* series. Many of the bosses from *Gradius* games can be found throughout the series (the American Eagle in level 2 is a dead ringer for the Pheonix found in *Gradius II*, while the Vegas showgirl (our favourite) features the same attack patterns as *Gradius 2*'s mechanical spider. And yet, for all its silly lampooning, the core mechanics of *Gradius* remain as good as ever.

BEST BOSS



Our type of boss

While many of *Parodius*'s bosses look barmy, they're all incredibly tough to take down. One of the most challenging, and also one of the best in the game, is the mid-level boss found on stage 5. Not only is he a direct parody of the huge mothership found on stage 3 of Irem's revered shoot-'em-up, but he's also just as tough, requiring a huge amount of skill to bypass. He's immediately followed up by a huge female Easter Island head, which constantly assaults you with additional heads that it spits out of its mouth. It's a relatively short stage, to be sure, but it's easily one of the toughest in the game.

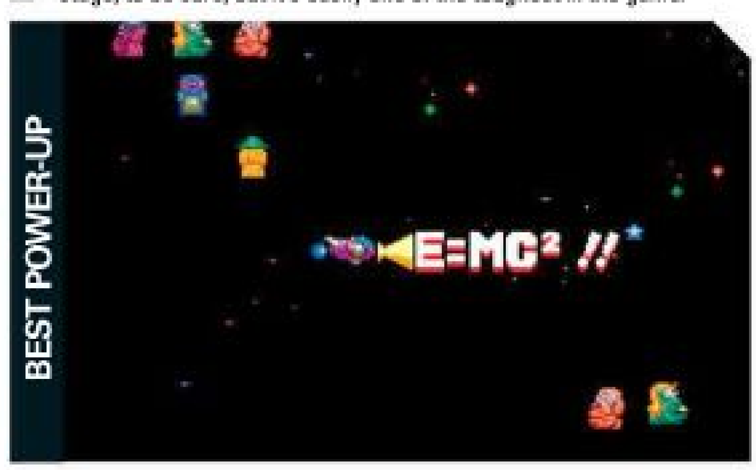
BEST CONVERSION



SNES for the Win!

If we're honest, all the console conversions of *Parodius* are of an incredibly high standard. The NES and Game Boy outings in particular are very good when you consider the limitations of the hardware, while the PC Engine and Sharp X68000 ports are also beautifully reproduced. If we were forced into a corner, we'd probably settle for the excellent SNES conversion. Konami was at the top of its game during the 16-bit era, and worked some amazing magic on Nintendo's 16-bit console. In addition to featuring all the levels and music of the arcade game, Konami also managed to squeeze in an additional level.

BEST POWER-UP



For whom the bells toll

All four characters of *Parodius* have plenty of power-ups at their disposal, ranging from ripple lasers to bombs and the ability to shoot backwards. Our favourite power-ups are the bells scattered throughout each stage. First featured in Konami's *TwinBee* series, they come in different colours, each associated with a specific power-up. One causes your ship to expand to four times its size, while others grant you bonus points or a smart bomb. The funniest is the white bell, which bestows your character with a megaphone that shouts out all sorts of silly nonsense, destroying anything it its path.



IN THE KNOW

- **PLATFORM:** ARCADE
- **PUBLISHER:** KONAMI
- **DEVELOPER:** IN-HOUSE
- **RELEASED:** 1990
- **GENRE:** SHOOT-'EM-UP

What the press said… ages ago



Mean Machines, 93%
Imagine our joy when SNES *Parodius* arrived and was in fact the best version of the game ever. If only everyone put this much work into their games.

What we think

Thanks to its tireless energy and the wealth of clever videogame references it contains, we still love *Parodius* today as much as we did the first time we played it. It's a huge improvement over its MSX predecessor, which was a great game to begin with, and it remains a highly entertaining and challenging shoot-'em-up that just doesn't seem to age.



In the chair with...

ERIC CHAHI

With Another World now more than 20 years old and recently released on iOS, we met up with its creator, Eric Chahi, to chat about his career and future ambitions, discovering just why there won't be a sequel to the game and why publishers should cross him at their peril

A KEEN PHOTOGRAPHER, ERIC CHAHI became a videogame developer in 1983 when he produced *Frog* for the Oric-1, following it up with *Carnaval, Le Sceptre D'Anubis* and *Doggy.* Although his break came with Loriciels, it was not until he moved to Delphine Software in 1989 that his true success began. He came up with the idea for *Another World* and made the project his own, writing the game, producing the graphics, and even drawing the box art. So successful was the game that even *Metal Gear* creator Hideo Kojima cited it as one of the five games that most influenced him.

RETRO GAMER: What games inspired you when you were growing up?
ERIC CHAHI: Videogames or games in general? I think if we are talking about all of the different types of games then I would say Lego. I spent so many hours playing with it when I was a child. It was a wonderful toy. Very creative.

RG: Did you play many videogames in your early years?
EC: The first videogame I played was a two-player game that involved a star and a ship, and you had to destroy each other. It was called *Spacewar!*, I think, and I would play this in the arcade, putting in lots of money and really loving it. It was like the same technology that was used in *Asteroids*, but it was out before then.

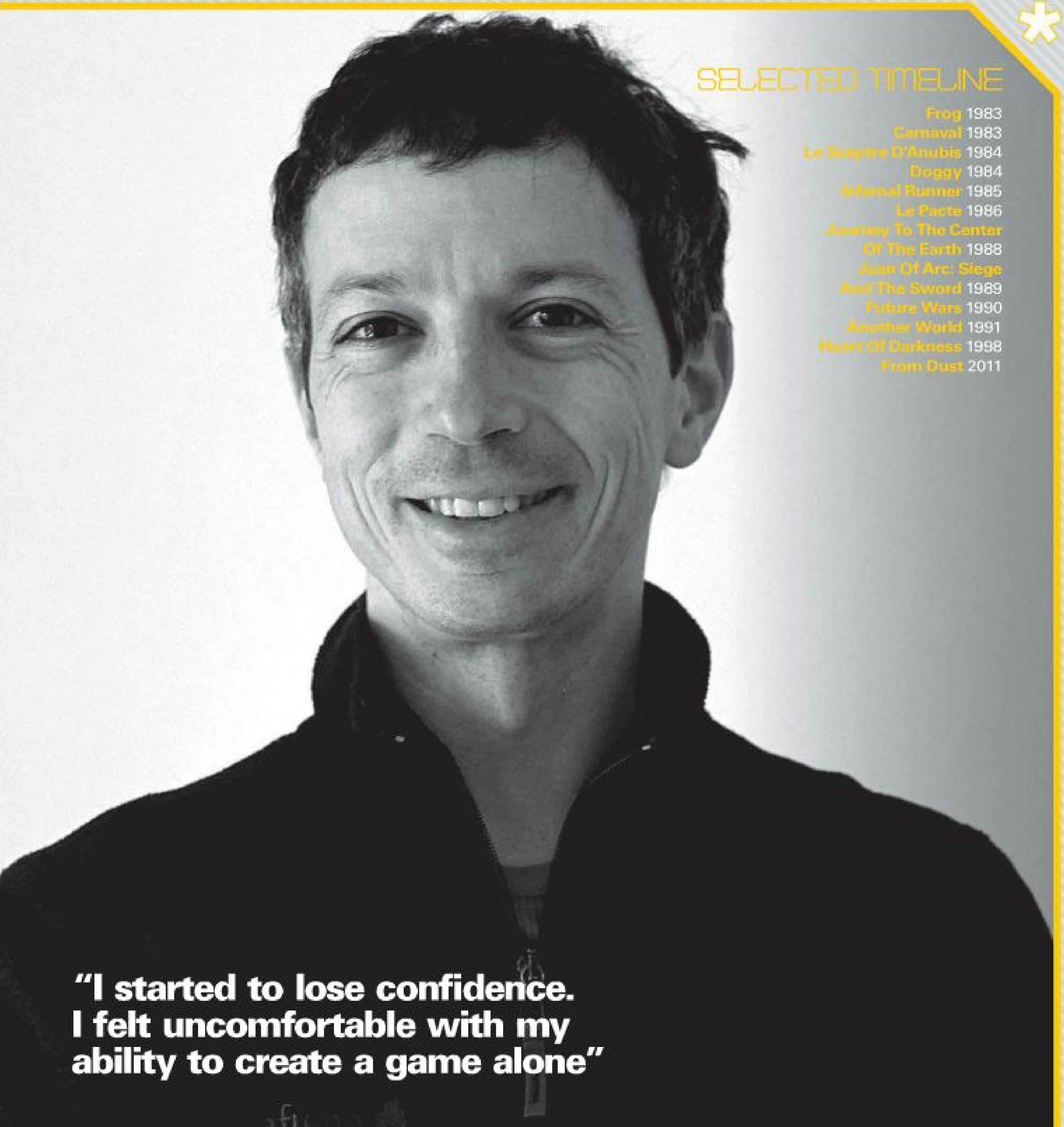
RG: Did that get you into gaming?
EC: I would say the big shift for me came in 1980 or 1981. Suddenly there were all of these colourful arcade stations with some amazing games, and I enjoyed playing them all. I remember spending ages with *Pac-Man, Galaxian, Battlezone, Tron* and *Galaga*. Each summer we went to the coast and we played with many of these types of games. I wouldn't say I was always very good at them. Sometimes they were very hard to play and I would have problems with them.

RG: What was it that caught your imagination?
EC: I think it was the feeling that I had when I pressed a button and I could see a ship or a character moving. I could explore and shoot and feel like I was in some sort of control. It was a pleasure to interact with a creature on the screen. I was watching these television screens and seeing such colourful pictures. It was very new and it was a revolution for me.

RG: Did you pester your parents for a computer?
EC: I didn't realise that you could use a computer to create a game until I went on a programming course at school. The maths teacher enjoyed computing and she put lessons on every lunchtime on a ZX81. That was the first machine I ever programmed on, but I wrote more serious software than gaming. It captured my imagination. At that time a friend of my parents had bought a computer, an Oric-1. I realised that you could create good games with this computer and so when I was 16 – this was in 1983 – I bought my own Oric computer in the summer. I had some savings that I had accumulated for a long time and it was all spent on this computer. My parents bought me a small television.

RG: Did you write your first game on the Oric-1?
EC: I did. I produced a game in BASIC. It was the first piece of programming I did on the Oric and it took me two weeks. It was called *Frog* and the player had to eat insects. The frog had a large tongue and he had to launch it to catch the flies but not the wasps, because they would kill the frog. He would explode. It was very simple.

RG: Your next game was made shortly afterwards, wasn't it?



SELECTED TIMELINE

Frog 1983
Carnaval 1983
Le Sceptre D'Anubis 1984
Doggy 1984
Infernal Runner 1985
Le Pacte 1986
Journey To The Center Of The Earth 1988
Joan Of Arc: Siege And The Sword 1989
Future Wars 1990
Another World 1991
Heart Of Darkness 1998
From Dust 2011

"I started to lose confidence. I felt uncomfortable with my ability to create a game alone"

EC: Two weeks later I made a game called *Carnaval*; it was a clone of another game called *Carnival*. A friend of my parents was working for a publishing company, which made books about learning French, and he understood publishing. He said I should show my game to a publisher for games and that I should try the importer of the Oric computer. Maybe they want to publish it. I went with my parents with my tape and showed them, and they called me two days later. They said they played the games and they liked them. I could be paid in money or with hardware like a printer and a joypad. I said I want the printer and the joypad.

RG: You must have been proud that your games had been released...

EC: I did not even get a copy of the game when it was published. I remember it had no cover, just a tape. I went to a fair a few years later and one of the prizes on one of the stalls was my game. [laughs] They probably got some cheap copies of it to give away.

RG: So you caught the programming bug?

EC: I produced a few more games. In 1984 I wrote *Doggy* and *Le Sceptre D'Anubis*, an Egyptian adventure game. The player would explore an Egyptian pyramid and they would have to type in text. I wanted Loriciels to publish the game, which I wrote in BASIC, but when I took it to them they did not want it. Loriciels was a big publisher at the time – the biggest in France – and I really wanted them to take the game. But there was a problem. Another adventure game came out on the day I went to see Loriciels called *L'Aigle D'Or*, and it was much better than mine. Loriciels only wanted a game that could beat it and I couldn't. My game was taken by Micro Programmes 5. Loriciels published *Doggy*, though.

RG: Was that a relief?

EC: Yes, it was. I had written the game in 6502 assembler and it

* FIVE TO PLAY

ANOTHER WORLD



HAVING NOT CREATED a truly original game since 1986 – his last being *Le Pacte*, before he went to work as a graphic designer on *Journey To The Center Of The Earth*, *Joan Of Arc* and *Future Wars* – Chahi had a burning desire to create his own project. Taken aback by the animation and graphics of *Dragon's Lair*, he decided to draw upon his love of science fiction, producing a side-scrolling adventure using an Amiga 500, a camcorder to create the animations for the rotoscoping, and Deluxe Paint for the art. The result was a much-ported masterpiece that, despite not having had the benefit of testers, quickly gained cult status in spite of its quirks. Gamers fell in love with an ambitious, cinematic, stylish game that combined cut-scenes with a strong narrative that put the player in the role of an actor, which was a major innovative achievement. Longer and more polished versions surfaced on the PC, Mac, SNES, Mega Drive, 3DO, Mega-CD and even the GBA, albeit some 13 years later and unofficially. The game was recently released for the Apple iOS format.

FROG



AS THE FIRST game he ever wrote, *Frog* was certainly no 'croak'. It was written in BASIC for the Oric and the premise was simple enough: players had to catch as many insects as possible using the frog's huge tongue, taking care to avoid the wasps, which proved fatal if swallowed. It was a race against time – or, at the very least, a falling energy level. As you might expect, the graphics were poor and yet the gameplay showed a good level of inventiveness, with a simple control system in which you moved vertically and hammered the space bar. It was enough for Chahi to turn the head of a publisher, and that set off a chain of events that led to his career in gaming.

LE PACTE



MOVING AWAY FROM producing simple games, Chahi wanted to invoke emotion in a player, and he did it by producing *Le Pacte*. He says he was inspired by *The Amityville Horror*, and it certainly has a foreboding, chilling air to it. The text interface didn't work as well as he would have hoped, and yet the game had some neat touches, not least the spiritual séances and dreams that formed the in-game help, and the concept of taking photographs in order to discover a demonic presence in a room. Packaged in an all-black box, the game's marketing suffered because it didn't have any screenshots on the back, although that was later rectified with the use of some stickers.

HEART OF DARKNESS



ALREADY EXHAUSTED FROM having made *Another World*, Chahi had considered taking his career in a fresh direction until he decided to press ahead with the game that became *Heart Of Darkness*. His organic approach to making *Another World* continued with this new game, making the development a long, drawn-out affair. *Another World* had been released in 1991, but it was another seven years until *Heart Of Darkness* saw the light of day. Frequent delays, a lukewarm response from reviewers and general tiredness of gaming led Chahi to focus on his other passions of travel and photography, and he took a very long break from gaming.

FROM DUST



AT E3 2010, *From Dust* was announced by Ubisoft. Eric Chahi was unveiled as the creative designer. Fresh from his travels, Chahi had been inspired and he started to create a simulated volcano, later building an entire game around it. *From Dust* feels as if it has benefited from Chahi's years away from the industry. His travel experience comes through in the way the game celebrates and plays on the great outdoors. It's a natural god sim that uses up a lot of computational power in producing changing terrain and fluid movement. Having been well-received and with good sales, it appears that this developer is back on the gaming map.

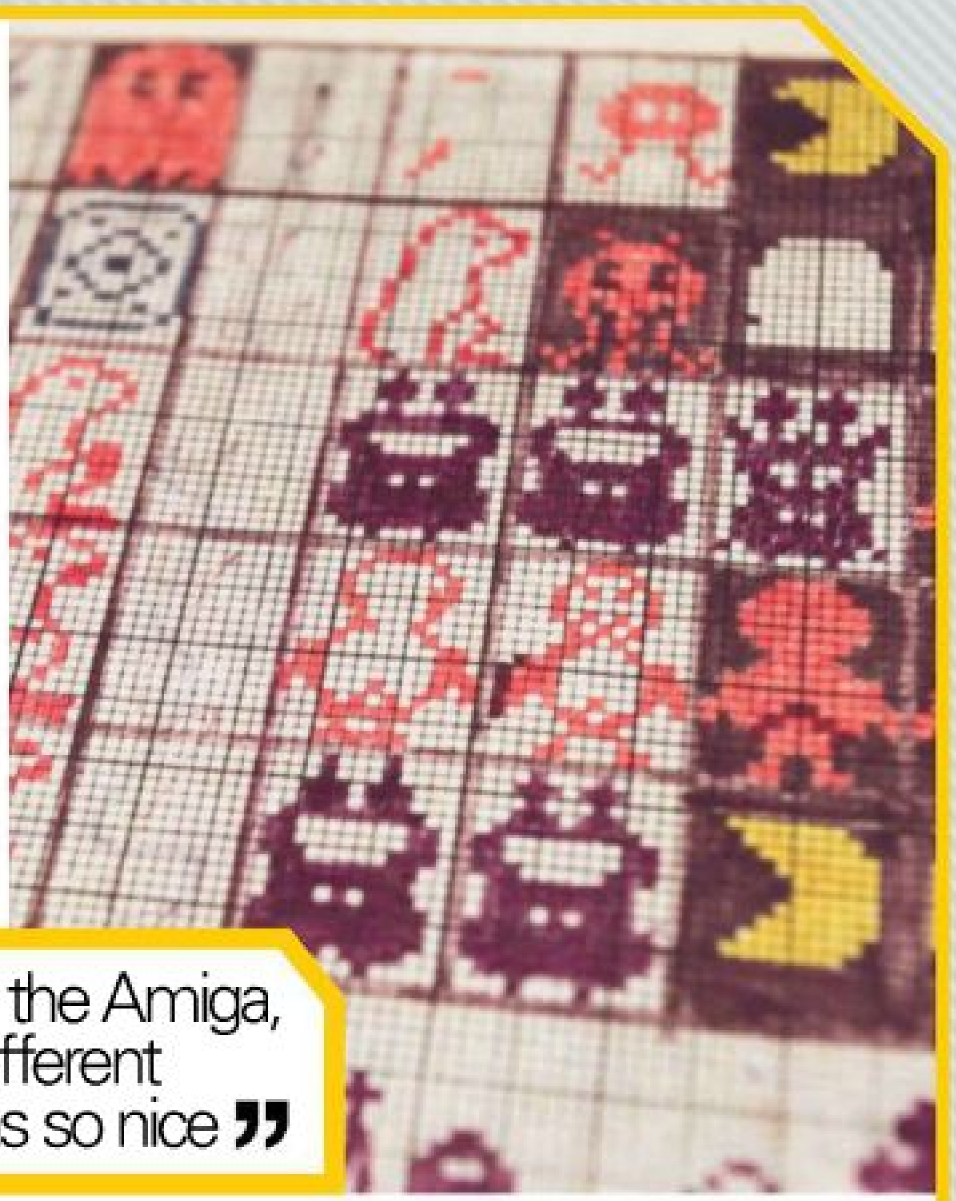
was a good game. It had horizontal scrolling and I mixed redefined text characters with pure bitmaps. I had been learning assembly language. Loriciels took my next game too: *Le Pacte*. It was another adventure game and it was the first time I tried to produce a mood in the game. You had to investigate a house and what is happening, taking an object and finding spirits. This game was very special for me.

RG: What influenced you when making *Le Pacte*?
EC: *Amityville*, the movie. I really wanted to express emotion and there was a lot of atmosphere in the game. It had a limited choice of a verb and a noun. The player had to choose from two lists. I think there were too many words. I did like my idea of having the player with a camera and you could take a picture of a spirit. You could look at the photograph and check if the spirit was a demon, and you could then try and destroy it. I also used the algorithms from *Game Of Life*. Loriciels was really excited about the game. The box was like a blackboard with blood on it, and they tried to do something different. But there were no photos on the back of the package so the player did not know how it looked. The publisher realised it was not a good idea, so it made some stickers with screenshots and put it on the back. The game did well, but it was not very successful.

RG: You were 18 years old when you made *Le Pacte*. Did you feel you were then old enough to go into creating games full-time?
EC: It was during the time I was making *Le Pacte* that I decided I wanted to stop my studies and produce videogames. It was time for me and I was earning some money. I was not earning a lot of money, but I thought it could be enough to live on. I made the choice to leave studying when I was 18. It disturbed my parents because I stopped before I went to university. That was a shame for them, but I had to prove to them that I could make money with my creations. When you are 18, you can make those kinds of decisions. I think back and I can see that I had been waiting until then to avoid conflict. It was my decision.

RG: After *Le Pacte*, were you given more freedom to choose your next game?
EC: I moved on to a very ambitious project. I wanted to create a game generator, so the user would say they wanted an arcade game with a certain fun variant and the generator would create a game. I started to work on an engine, but it was too big and I didn't have enough skill to create a project like that. After a year I decided to cancel it. But I started to lose confidence. I felt uncomfortable with my ability to create a game alone.

RG: You then made the move into 16-bit computing. Was that a big jump for you, then?
EC: I created art for *Jeanne D'Arc* and *Voyage Au Centre De La Terre*. They were published by a company called Chip. I was contacted by some people who worked at Loriciels and they were producing a new game. They wanted me to work as a programmer but I said no. I wanted to do graphics and they said that was okay, so that's what I did for a year with Chip. I had to leave, though, because the company was having financial difficulties and they were not paying people. I didn't like the work I was doing either so I left. But I realised that the Amiga 500 was a wonderful computer, and it had so many colours. I enjoyed creating art more than I did programming.



“I would prefer the Amiga, looking back at different computers. It was so nice”

RG: What if games hadn't existed? Do you think you'd have become an artist?
EC: Today, if I was not in games, I would do animations. I had another ambition as a teenager to create stop-motion animation films. I would sometimes create movies. If videogames didn't exist, I would probably be doing that.

RG: So where did you go next?
EC: There was a new company called Delphine Software, which had just published a new game by Paul Cuisset called *Bio Challenge*. Paul was looking for a graphic animator for his next game, which was *Future Wars*, so I went to Delphine. It was a big company – a record company. They published a lot of easy listening classical music and they had a lot of money, but they had decided to go into gaming and they wanted to find some talent. I noticed straight away that they trusted people who worked for them too. *Bio Challenge* had been a great success and they had high expectations for *Future Wars*.

RG: What was your meeting with Paul Cuisset like?
EC: The first time I met Paul, he was unsure about me. He was not sure about my work. On the Amiga I had retouched images that had been scanned, but he wanted to see more so I worked hard for two or three weeks to create the best pictures I could do at the time, and then I created an animation with a small character moving towards a ship. And he said he wanted to work with me. That was the beginning of a new era for me. The success of *Future Wars* was very nice, and it gave me some time to create something on my own without any pressure.

RG: Was it hard leaving the 8-bit generation well and truly behind?
EC: Well, after the Oric, when I got my first bit of money I bought an Apple II. I knew many people with it and they loved the computer. I played many games on it. There was a good diversity of games – arcade, adventure, puzzle and so on. Games like *Karateka* and *Lode Runner* really inspired me. It was an incredible computer for gaming for me.

RG: It wasn't the most popular machine in France, though, was it?
EC: No. The Spectrum and Commodore were popular in the UK, but in France it was the Oric and Amstrad CPC. I loved that machine but I preferred the Motorola processor to the Z80, which I felt was too complex. It didn't have the same elegance. The Amiga had Motorola. I would prefer the Commodore Amiga, looking back at different computers. It was so nice.

RG: What did you do at the time, other than play and create games?
EC: Well, I was fascinated by science fiction and the universe. I've always been interested in those. I saw *Star Wars* when I was ten years old and it inspired me. I was totally blown away by this movie. Before this I was interested in science fiction, but *Star*

*NUMBER CRUNCHING

1,000,000: The number of copies sold of *Another World*

20: The number of years that have passed since *Another World* made its debut

18: The age at which Chahi left education

9: The number of games he originated

13: The number of years between the release of *Heart Of Darkness* and *From Dust*

1: The number of games he says were easy to make: *Future Wars*

7: The number of years *From Dust* had been in the works, Chahi having started the design in 2004

1: Lovecraft-inspired RPG, later abandoned





» A colour sketch of *Another World* by Eric Chahi, showing off his artistic skills to the max.

Wars showed me it was possible to make imaginary but believable universes. So I focused on this movie and science fiction for many years. I was totally passionate about fantasy illustration and creation.

RG: And so to the big one: *Another World*, or *Out Of This World* as it was called in America. Your defining moment…

EC: It's a massive game. There is no score. It is visual and it has a large universe; it was unique in that respect. At the time it was traditional to have a score. There is a cinematic feeling to the game, and players felt they were leaving their life and becoming involved in a story, living the life of this other person or character. *Another World* had good storytelling.

RG: There were a lot of groundbreaking features in the game. How did they come about?

> "It was strange having something that was supposed to look like me in the game, so I changed the hair to red"

EC: It was a chance for me to try some nice techniques. One of them was rotoscoping, which worked like in *Karateka*. I used myself for the animation work and it made the main character more lifelike. I put a lot of effort into the look of the game. I wrote the graphic engine in assembly language while the polygons tool was coded in GFA BASIC. I decided to use polygons because it allowed me to create large graphics in a small amount of memory. I got a good frame rate of around 20 frames a second. The Amiga had something called genlock, which let me produce rotoscoped animations using polygons.

RG: So it's fair to say that *Karateka* inspired you greatly?

EC: I loved it on the Apple II. The narrative was simple but effective, and very new at the time. It had an incredible cinematic feeling. *Dragon's Lair* also inspired me. It influenced me to use polygonal technology. It had a bigger character, and it showed me that polygons could do the same as pixels with less memory. They didn't use polygons in *Dragon's Lair* – they used compressed bitmaps – but it gave me the idea and I thought I could extend their use to the game itself.

RG: You modelled Lester on yourself in the game, but you felt disturbed by it, didn't you?

EC: Yes, it was strange having something that was supposed to look like me in the game, so I changed the hair to red. Red hair was also interesting to make the hero pop out from the background.

RG: Is it true that you had a fax war with Delphine's American publisher, Interplay?

EC: I did. Interplay wanted to change the introduction music to the game. I was very angry and I wanted to keep my own music, so we had a bit of a fight. We were exchanging faxes and it was this big fight by fax. I thought my music was fine, so I sent an infinite fax, which is a long strip of paper where the beginning is stuck to the end using an adhesive strip, such that it loops around the fax machine endlessly. It kept repeating the words 'keep the original intro music'. Of course, I sent this when it was night in Los Angeles, so you can imagine their surprise when they arrived at work in the morning and found reams of paper repeating this message. This didn't help, and they didn't change their mind until Delphine got involved and said that legally they had no right to impose their choice of music.

RG: How did you produce *Another World*?

EC: Mainly on screen. The whole game creation was chronological. It was an improvisation process where the story and the game were built progressively. At the end of each level, I didn't know how it would continue before doing it. The main idea was to communicate the pacing of a movie to the player and immerse him in a believing universe without extra information like score on screen. It is something that *Another World* has in common with *Heart Of Darkness*. For *Another World*, it was more of a process where I started to create the tool and the engine to draw it and to play it, and then I used this engine and the whole game mechanic was built progressively.

RG: The game was even ported to consoles. Was that exciting at the time?

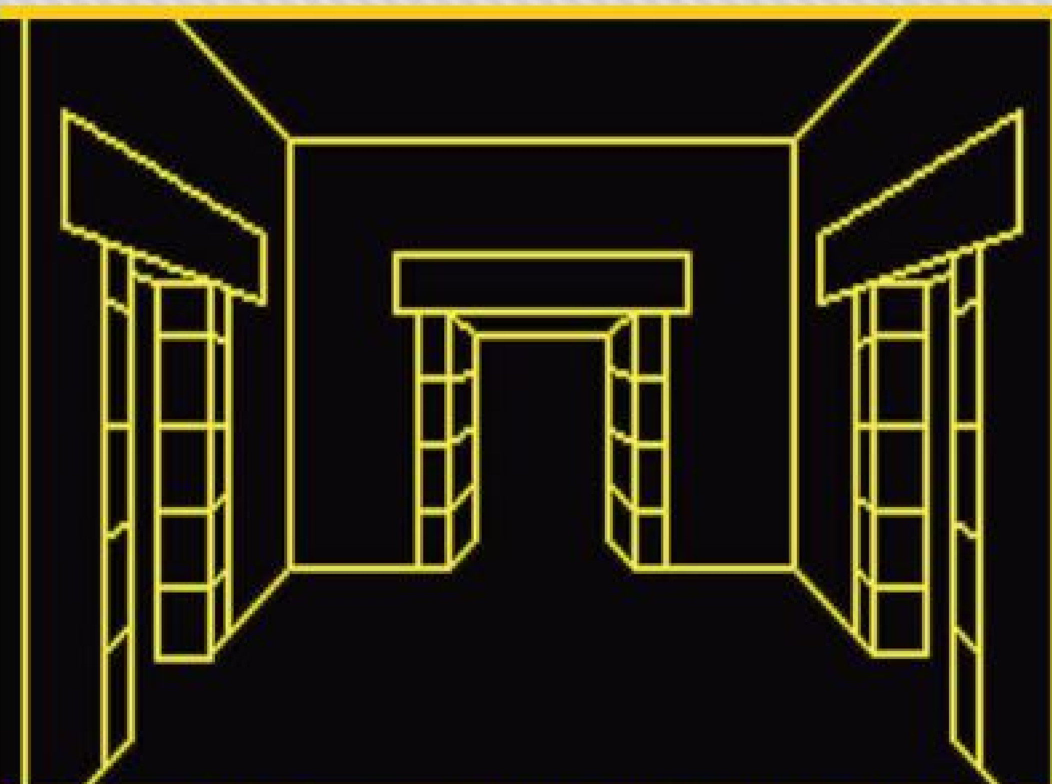
EC: When it went on console, that was something incredible for me.

RG: So were you pleased with the response to *Another World*?

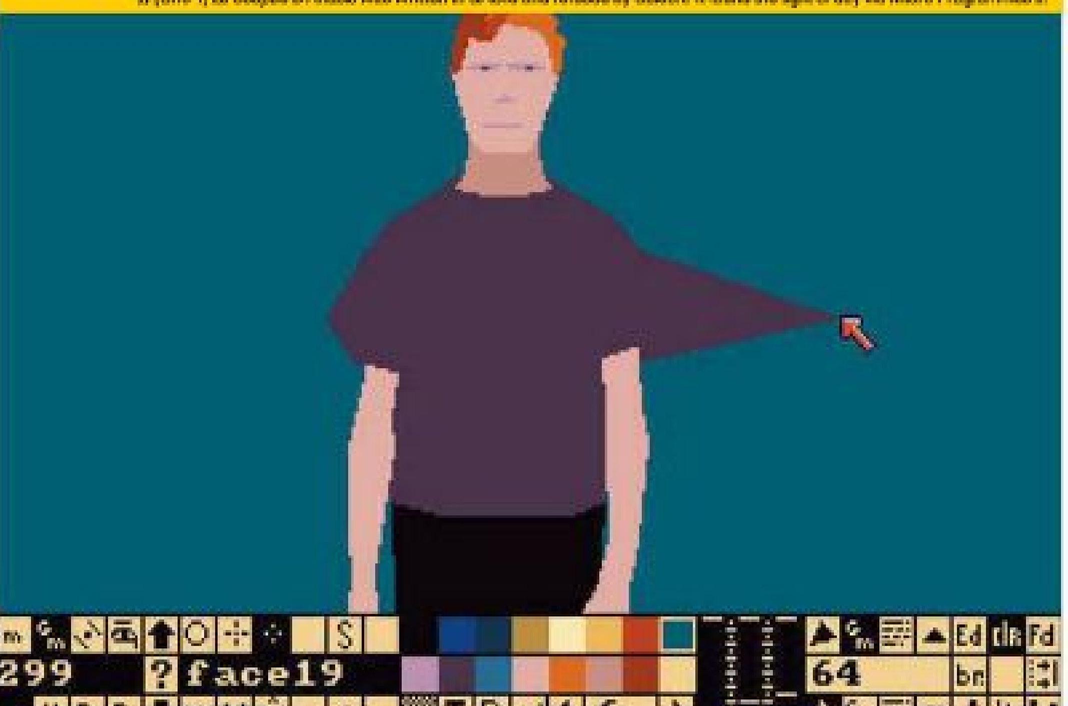
EC: *Another World* was a big commercial success and it was a great time for me. But I have to say that when someone has success, it is disturbing. People want to meet you and some people want to create with you. I didn't know what I wanted to do, but I had a lot of pressure to create something else, so I decided I should take a break. And so it's like being on a train that was going faster. It was not easy because I had a feeling I wasn't controlling things.

RG: Did you become torn between staying in gaming or leaving?

EC: I did. I didn't know whether I should go into illustration or remain in games. But I was convinced that gaming was where my future was. I looked at the success of *Another World*, and so we went to *Heart Of*



» [Oric-1] *Le Sceptre D'Anubis* was written in BASIC and refused by Ubisoft. It found the light of day via Micro Programmes 5.



» [Amiga] *Another World's* graphics were produced on the Amiga using Deluxe Paint and represented a major triumph.



» [Oric-1] *Carnaval* was one of Chahi's earliest games, produced when he was a teenager finding his feet in videogaming.

Darkness. But it took a long time to make, and after all these years I wanted to take a break.

RG: Would you ever go back and produce an up-to-date version of *Another World* or a sequel?
EC: I prefer to keep the game as it is and focus on new game creations. *Another World* came out 20 years ago and I want to preserve it as it is. Now I want to work on more systematic games, and a remake would take up a lot of energy.

RG: Is there anything you would change about *Another World*?
EC: It is a tricky question. Yes, I would like to change the difficulty, for example. But on the other hand, it is a piece of Nineties gaming. I don't want to change it too much.

RG: How is the new Jaguar version progressing and have you seen it since granting permission?
EC: It's such a crazy thing. It should be released soon, I hope. They want to burn it to a real cartridge and the amazing thing is that there are people who are so passionate to do this. I met them two or three years ago and they asked if we could do it. I said yes, yes. They can't do it full-time so they are doing it sporadically. One day recently they contacted me again and said it was finished. I said of course they could distribute it. They want to meet me again. We didn't make a Jaguar version, so it's nice to see.

RG: *Heart Of Darkness* was a bit of a nightmare project for you in terms of the length of time it took to make. Why was that?
EC: The gameplay just took a long time. The story, characters and cinematic approach were almost done in 1995. The level design was done too at that time, but the gameplay was not coded yet. Indeed, we had the first level produced around 1993, but all that was was a character on a background. We had all the game engine for graphics and for collision detection and character animations, but it wasn't gameplay. Coding in C was difficult too. I was hoping the whole game could be programmed in C, which I didn't do with *Another World*. I thought C would be better, but it posed problems, especially with compiling time. So we created a scripting language in the same way as in *Another World*, to iterate quickly. Once we had the right tool, we finalised the game in about a year.

RG: Following *Heart Of Darkness'* release in 1998, you decided to leave gaming and concentrate on photography and painting. Were you just fed up?
EC: I needed a break. I wanted to do something different. But then, in 2004, the desire to create a game came back, the industry was starting to change positively with the internet, and I had many ideas waiting in my notebooks that I wanted to become real. I've started to work on these. At the same time, the idea came in 2005 to produce a mobile phone version of *Another World* and so I worked with Magic Productions on that. In 2006 I contacted Ubisoft to present them with *From Dust*.

RG: How different was it working on *From Dust*? Has the industry moved on a lot?
EC: Working with a team is different from creating a game alone. It is powerful, but I have to adapt to this. You have to make sure that the team understand where you want to go and it must become their project too. Sometimes I prefer to abandon some idea in favour of a team idea to make sure they put their soul in it. The *From Dust* team was fantastic in many aspects for this. It was different in other ways too. Working with a big publisher brings extra pressure, especially about marketing, and you have to convince people all the time. There is another big difference regarding the development itself. *From Dust* is highly systemic. It's a simulation. There is a lot more freedom for the player; that was very new and exciting. It is a kind of gameplay totally different from in *Another World*, which was very scripted. In *From Dust* I learned a lot to create a game with emergence in the game system.

RG: What is your proudest moment in gaming?
EC: As a gamer, finishing the game *Datastorm* on the Amiga.

RG: Do you have any regrets?
EC: Not really. I've been very lucky. Well, maybe the length of the development of *Heart Of Darkness*, which could have been shorter by taking the right decisions sooner.

RG: What do you hope to do next?
EC: It is too soon to talk precisely about it. It will be a game more in the way I did it in the Nineties. I mean regarding the development process – be alone, follow my feeling and be in a tight iteration between design and code. The subject will be different; I'm very excited to create a systemic game again!


056 026
x2
x18
x01


190 023
x3
x20


036 129
x3





Pitfall: The Mayan Adventure

DON'T CALL ME JUNIOR!

» RETROREVIVAL



» SUPER NINTENDO
» ACTIVISION/REDLINE GAMES
» 1994

Created and programmed by Activision co-founder David Crane, *Pitfall!*'s arcade action and impressive visuals wowed an entire generation of 2600 owners. It also introduced and made a superstar of green-clad croc-dodging adventurer Pitfall Harry, the closest Activision had come to a mascot like Mario and Sonic.

With the platform genre rapidly growing in popularity on 16-bit systems, it thus made perfect sense for Activision to revisit and rejuvenate the franchise for a new generation of gamers. The jungles of the 2600 might have been long deforested, but Activision was confident that its adventurer could adapt to any environment.

This colourful 16-bit update, which Activision co-developed with Redline Games, was the result. It appeared on an impressive number of systems, from the Jaguar to the 32X. Like the classic *Pitfall!*, it boasts rich graphics and animation. It sees a wildly animated Harry Jr, the son of the original adventurer, jumping and swinging through jungles, caves and temples with such enthusiasm that he makes it feel as if Bear Grylls phones it in.

Of course, snazzy visuals do not maketh the game, and though polished, *The Mayan Adventure* isn't without a few annoying niggles. Though the stages look vibrant, their design can be confusing – alarm bells ring in the form of little Mayan statues littering the stages that point Harry in the direction he needs to go. They're also loaded with some pretty predictable and thus unexciting enemies – snakes, bats and monkeys – that can be real blighters to hit.

There are a few standout moments, though. An enjoyable take on the requisite minecart level is one such example, which sees Harry using the wheels of a broken cart as a skateboard in true Marty McFly fashion. Its amusing ending is also guaranteed to raise a smile from Pitfans, as will the fact that the full original 2600 game is tucked away in there – there's a secret portal on level 4 that warps you back in time to the year 2600.

The Mayan Adventure is a polished platformer, a respectful update, and despite a few flaws, it's a must for *Pitfall!* and platformer fans alike. *





FROM THE ARCHIVES

RETRO GAMER DIGS UP THE FILES OF THE CLASSIC COMPANIES OF OLD

DOMARK

Which company took a well-known quiz-based board game and turned it into a hit videogame? For Dominic Wheatley and Mark Strachan the answer is rather easy. We look back at Domark, one of the UK's most successful publishers

Here's a question: which game prompted two marketing people with no videogaming experience to enter an industry they knew nothing about with a hunch that they could make a lot of money? The answer is The Heroes Of Karn on the Commodore 64.

And as unlikely as that may appear, it was enough for Dominic Wheatley and Mark Strachan to quit their jobs and form Domark in 1984, a company whose success would not only delight a host of 8- and 16-bit gamers but also help to give birth to one of the most prominent videogame characters of all time.

It all started when Dominic watched his brother play *The Heroes Of Karn* in December 1983. "I'd gone home at Christmas and I saw that my brother had bought a Commodore 64," he says. "I looked at this machine and I thought, 'Oh, that looks absolutely amazing. I can't believe he's playing an adventure game or whatever it is.' At that moment I was really impressed. As far as I was concerned, computers had been sitting on the desks of accountants and finance directors and not ordinary people. Suddenly I realised that ordinary people were taking these things on and I just knew this was going to be huge."

In the new year, Dominic went back to work as a junior account executive at a small advertising agency in London called Garden. He told his colleague, Mark Strachan, about his discovery, and he floated the idea of leaving the agency and setting up a publishing company to market third-party games. Mark's head was turned when he took a stroll down the high street. "There were 'we have sold out of Spectrums' stickers on retailers' windows. We just felt that people would want games," he said. It was an epiphany for the pair, who took parts of their names to form the brand name, Domark. Perhaps that is why it was so fitting that they should name their first game *Eureka!*.

Dominic had the idea of an adventure game in which players ran around, finding clues, as part of a treasure hunt. And, being marketing people, they wanted to find a way of getting people to play the game. They decided to create a competition: upon completion of the game, a secret telephone number would be revealed, and the first person to call would win £25,000.

The pair began raising some cash to get both the game and the competition off the ground. "We went off with our plan and our ideas to generate investment," says Dominic. "That was, of course, difficult in 1984, but we went around friends and family, parents and various people we bumped into, and we eventually mustered up £160,000, which was more than enough to do the project. We found some programmers in Hungary called Andromedia and we started our marketing plans. We launched it to great fanfare, lots of PR and lots of press and stuff like that, and it did all right. It didn't knock one out of the park, but it did sufficiently well for us to make a little bit of money and be still in business."

The game was written by Ian Livingstone and the marketing was handled by a

INSTANT EXPERT

Founders Dominic Wheatley and Mark Strachan took parts of their names to form the brand Domark.

Dominic is the grandson of author Dennis Wheatley, and Mark had good connections with Whitbread Brewery.

Dominic graduated from Sandhurst in 1978 and served a commission in the Irish Guards.

He met Mark when working at an advertising agency in London.

The pair saw the potential of computer games after seeing C64 game *The Heroes Of Karn*.

They approached their friend, author and Games Workshop founder Ian Livingstone, to write a game. *Eureka!* was the result.

Thousands of pounds was spent on marketing – including £25,000 for the first person to finish it.

Domark eventually became Eidos, which owned Core Design, developing *Tomb Raider*.



“There were ‘sold out’ stickers on shop windows. We felt that people would want games”

MARK STRACHAN ON HIS MOTIVATION FOR FORMING DOMARK



company they set up called Concept Marketing. Ian, who had founded Games Workshop and had written the *Fighting Fantasy* books, was so impressed by Dominic and Mark that he became one of Domark's investors.

"Dominic and Mark were aware of the success of Games Workshop and *Fighting Fantasy*," recalls Ian. "It was 1984 and *Deathtrap Dungeon* was number one in the children's charts. It was getting a lot of publicity, so we had a meeting and they asked me to design their game. At the time armchair mystery puzzles with prizes were all the rage, not more so than the search for the golden hare from *Masquerade*, the infamous Kit Williams book. Dominic and Mark wanted to do the same with a computer game."

Although Ian believed in the company and was happy to buy into it, Domark was unsure what to do next. "The other side of Christmas was tricky," says Dominic. "We wondered what the hell else we were going to do." It was then that the founding pair began to explore licences.

"We really started to expand Domark when we hit on the idea of taking on licences," says Mark. "The time we had with *Eureka!* was some ride, and it had done okay. We were new kids on the block and I remember Lee Ginty of Microdealer did an exclusive with us at the PCW Show. We felt we had really arrived. I was only 24 at the time, and it was just so exciting."

Dominic and Mark had a contact within the Ian Fleming estate, and so they approached him with an idea of producing a *James Bond* game. It was agreed that they would be allowed to secure the rights, and soon *A View To A Kill* had been commissioned. Yet things didn't go smoothly. Dominic said they allowed the programmers to dictate the direction of the game and took what they said at face value. The planned game became unfeasible, and it shipped very late. But it was still the first *James Bond* videogame ever made, and Dominic contends that it was "actually quite successful". "We sort of lurched in and out of success in the first couple of years," he said. "Building the company wasn't easy."

Making friends, however, was. "We didn't have any rivals," says Mark. "We were great friends with competitors. No one had the *Bond* licence other than us, so we were friends with everyone."

But it wasn't the *Bond* licence that created Domark's fortune; that fell to *Trivial Pursuit*. "We had a lucky break," says Dominic. "There was a company called Leisure Genius, which had done extremely well with *Scrabble* and board games that had been converted into computer games. *Trivial Pursuit* had become a really hot board game a couple of Christmases before. It was an extremely well-known and big, big property, and I went to see these guys and I got the rights to it."

BY THE NUMBERS

24 The ages of Mark Strachan and Dominic Wheatley when they set up Domark

£25,000 The amount offered to the first person to finish *Eureka!* and let Domark know

15,000 The number of tapes that *Eureka!* sold

83 Percentage scored by Domark's *Trivial Pursuit* game in *Zzap!64*

4 Number of divisions in *Championship Manager*

£160,000 Cash raised from family and friends to start Domark

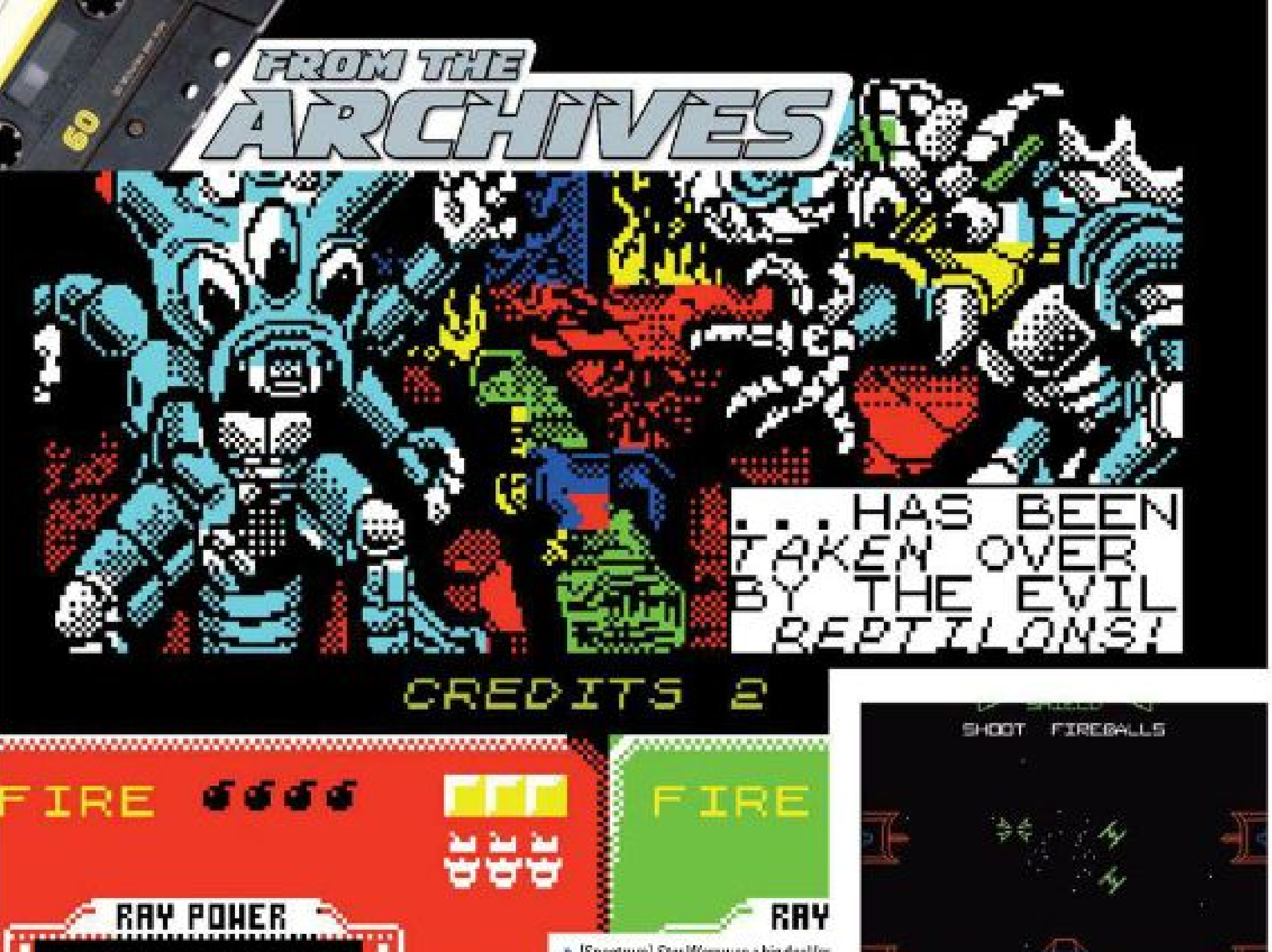
23 The number of investors in the company

£10,000 The amount invested by Ian Livingstone

£280,000 The royalty cheque written for Atari following the success of the *Star Wars* trilogy

13 Menzies refused to sell *Friday The 13th* because the cover had a blood-covered hockey mask with a knife piercing the eye hole

£11,000,000 The value of the games that Domark was selling annually by 1994



» [Spectrum] *Star Wars* was a big deal for Domark, and was followed by two sequels.

TIMELINE

- **1984** DOMARK FOUNDED BY DOMINIC WHEATLEY AND MARK STRACHAN
- **1984** IAN LIVINGSTONE IS ASKED TO WRITE *EUREKA!*
- **1985** THE RIGHTS TO A *JAMES BOND* GAME ARE ACQUIRED AND *A VIEW TO A KILL* IS RELEASED

WHERE ARE THEY NOW?





Dominic Wheatley
After a short while without a project of his own, Dominic hooked up with an old friend from Domark and pursued an idea for producing interactive toys, which included *Thomas The Tank Engine* and *Bob The Builder* and was taken on by Bandai. Later he came across Alex Halliday and Steve Hardman in Shoreditch, London, who were producing social networking software. The company is now known as SocialGO, and Dominic is its executive chairman.

Mark Strachan
Four years after leaving Domark in 1995, Mark set up Gameplay PLC, which rented and sold games on the internet. He sold it in 2002 when he became CEO of the Entertainment Software Charity, raising money for the education of disadvantaged UK children. Three years later, he became the non-executive chairman of In2Games Ltd, and in 2006 he funded Piste Activities, which operated in the Alps. "After Domark, I went on to be chairman of ELSPA and had the great privilege of climbing Kilimanjaro three times for charity with my great friend Andy Payne," he says.



Ian Livingstone
Ian stayed with Domark/Eidos. In 2005, Eidos was taken over by SCi, but Ian remained as the only board member to do so. He became the company's product acquisition director. As well as overseeing the *Tomb Raider* period, he contributed to *Tomb Raider: Anniversary* in 2007 and, in 2009, when Square Enix bought Eidos Interactive, Ian became the company's 'life president'. He does a lot of work within the gaming industry, and in 2010 he was asked to act as the UK's skills champion by Ed Vaizey, the minister for culture, communications and creative industries.

Unknown to Dominic, the guys at Leisure Genius were sceptical that the game would actually work on a computer, and so they were more than happy to allow Domark to give it a go. "When I met the guys later, they were very rueful that they'd never thought of producing a *Trivial Pursuit* game, and they admitted they couldn't see how it could be done successfully on a computer," he recalls. "But we had all sorts of ideas about how you could see a map with no names and had to say what a certain country was, or you could hear some music and try to name the song – that sort of thing. You pressed a button, and if you got it right you moved on."

The game was built by Oxford Digital Enterprises, but Dominic and Mark became heavily involved. "We spent a lot of time on it ourselves," remembers Dominic. "It was one of the few times I've spent actually helping to develop a game, and it did extremely well; we sold about 2 million units. It was what you could call our *Tubular Bells* moment – you know, the thing that got Branson going. It was exactly the same thing. It got us going. We got a ton of money and lots of work. We moved to smart offices and got new people, and we just kicked off."

The licences continued to roll out and Domark turned its attention to coin-ops. There was a flirtation with an in-house dev team – "Mainly we used outside teams, but we did set up our own called The Kremlin, which had mixed success," says Mark – but publishing was the focus.

It was noted that US Gold and Ocean were proving to be very successful in turning arcade machine titles into successful home computer games. Dominic flew to Las Vegas in 1987 for his very first CES appearance, and he remembers a packed hall with lots of established American companies, many of which knew each other. Dominic, however, was on his own and Domark was still a small business, despite its successes.

"I remember sitting very sadly in my little room at Caesars Palace, wondering who on earth I was going to meet," he says. "I was wandering around the show, looking fairly gormless, and then I bumped into this guy called Manlio Allegra. He was a sort of agent representing people like Konami, which was doing coin-ops, and, of course, Atari and many other big coin-op manufacturers. He was the guy who was doing the deals between the big guys, Ocean and US Gold. And because those guys were already much bigger than us because they'd started a bit earlier than us, they were paying quite big money for the new, big, hot coin-op properties, and we couldn't compete."

So Dominic invited Allegra to his hotel room for a meeting. "I remember sitting in my little room with Manlio, having a meeting, and he was trying to bully me into taking on all of these games he had, and I was saying, 'No, no, no, it's too much money. I can't possibly...' He was saying we needed to get in the game, and I was telling him we couldn't afford it and that we only had £25,000 to spend, at which point he looked at me with despair, thinking how penny pinching I was and telling me that we needed to have vision and think big."



1986 — A MIXED YEAR: *FRIDAY THE 13TH* WAS TERRIBLE BUT A DEAL WITH LEISURE GENIUS LED TO *TRIVIAL PURSUIT*, WHICH CHANGED DOMARK'S FORTUNES

1987 — MORE JAMES BOND, MORE *TRIVIAL PURSUIT*, BUT DOMARK ALSO SECURED THE RIGHTS FOR ATARI'S *STAR WARS* TRILOGY AT CES IN LAS VEGAS

1988 — A BUMPER YEAR: DOMARK HAD THE RIGHTS TO CONVERT ATARI GAMES AND *LIVE AND LET DIE* WAS RELEASED, AS WAS *SPITTING IMAGE*, *TOTAL ECLIPSE* AND *TOOBIN'*

1989 — BOND, JAMES BOND: *007: LICENCE TO KILL*. THAT WAS JOINED BY *HARD DRIVIN'*, *KLAX* AND *APB* AMONG OTHERS. DOMARK WAS GETTING INTO ITS STRIDE

1990 — A DEAL WITH BRODERBUND ALLOWED DOMARK TO PUBLISH *PRINCE OF PERSIA*. IT CONTINUED TO PUBLISH ATARI GAMES (*BADLANDS*, *CYBERBALL*, *KLAX*, ETC) AND *THE SPY WHO LOVED ME* WAS RELEASED

1990 — THE COMPANY NAME CHANGED TO DOMARK SOFTWARE LTD. AN IN-HOUSE DEVELOPMENT TEAM WAS FORMED CALLED THE KREMLIN

1991 — DOMARK PUBLISHED FLIGHT GAMES BY SIMIS. THIS YEAR INCLUDED *MIG-29 FULCRUM*

1992 — A MEETING WITH TWO LADS FROM NEWCASTLE LED TO THE PUBLISHING OF THE MASSIVE *CHAMPIONSHIP MANAGER*

1993 — DOMARK SOFTWARE INC WAS ESTABLISHED IN CALIFORNIA

1994 — FINANCIAL TROUBLE MEANT DOMARK HAD TO VISIT THE BANK, WHICH WAS CALLING IN A £2 MILLION DEBT. THE FIRM PERSUADED THE BANK TO REMAIN FAITHFUL

1995 — A REVERSE TAKEOVER MEANT EIDOS ACQUIRED DOMARK, SIMIS AND BIG RED GAMES TO FORM THE EIDOS INTERACTIVE GROUP. IT LATER ACQUIRED US GOLD, CREATOR OF CORE DESIGN, WHICH MADE *TOMB RAIDER*

Allegra began to look down his list and started to reel off names that he said were at the bottom of the barrel. He mentioned *Star Wars*. "I went, 'What, what, what?'" laughs Dominic. "I'm like, 'Hold on, I've played that game. It's an absolutely brilliant game. I love it. It was one of the great coin-op games. I offered him £25,000 for the trilogy, he went off to Atari and it was all okayed. We got the rights to *Star Wars*."

Another contact, on hearing that Domark had acquired the *Star Wars* rights, phoned Dominic to tell him that there was a German programmer who had already converted the game to the Amiga. The developer had been touting the game around, and he was put in touch with Dominic. "We took him out of Germany, brought him over, put him up, and he just basically programmed the Amiga, the ST, all the conversions, and he was brilliant. I'd rarely come across as good a programmer as this guy. And these games were a huge success. They went straight to the top of the charts. We sold bucketloads."

The first royalty cheque Domark sent to Atari two months later was for £280,000. Atari immediately set up a meeting. Its people were impressed by the quality of the games and the marketing behind them. Telling Dominic that they were fed up of working with lots of different companies, they struck a deal. Atari asked Domark to be its sole conversion company. "We were like, 'Cool'," says Dominic, laughing.

It was a major deal for Domark. Although Atari was developing conversions of its coin-ops under its own Tengen brand, Domark had scooped up all of the home computer rights. Home computers were still very big in Europe but not quite so popular in America, where the consoles were beginning to take hold.

Domark realised this and so set about trying to gain a foothold in consoles too. Dominic's old friend Mick Alexander was running Sega, so he went along to see him, securing a Sega licence in the process. "We started making great Sega games, like *F1*, which was a huge hit, and stuff like that," says Dominic. "Of course, Atari then distributed our console games for us in the US. We were building up a huge, long relationship with Atari, and it was at a time of growth and fun. We made lots of money and had lots of lovely expenses and hotels and so on. It was absolutely fantastic."

During this spell, Domark published a great many games including *APB*, *Dragon Spirit*, *Vindicators*, *Hard Drivin'* and *Toobin'*. Its office in Putney, south London, was overrun with arcade machines from Tengen, mixed in with the 20 staff that worked there. Domark was not one to rest on its laurels, though, and in 1992 it was realised that it needed an office in America. Dominic moved with his wife and two children to America, where he could meet lots more people and manage

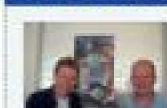


> **"I called a modelling agency and they got some really rough-looking actor"**
>
> DOMINIC WHEATLEY ON THE CHOICE FOR THE CHAMPIONSHIP MANAGER COVER

the company's relationship with Atari on its own doorstep. Based in Silicon Valley, Dominic got down to work. One of the scoops was a distribution deal with Spectrum Holobyte, which was notable for its flight simulators.

One of the big successes for Domark came soon after. Two lads – Paul and

IAN LIVINGSTONE'S MEMORIES



"I invested in Domark after meeting Dominic and Mark in 1984, as I believed *Eureka!* would be successful. After selling my remaining interest in Games Workshop in 1991, I invested more in Domark with a seat on their board and became deputy chairman in 1992. In October 1995, we met the directors of Eidos Technologies and, long story short, we merged four companies into what became Eidos Interactive, which we floated on the London Stock Exchange. I became chairman of the new group. We took control and launched *Tomb Raider* in November 1996. It was an incredible success, far beyond anything we'd hoped for. They were very exciting times!"

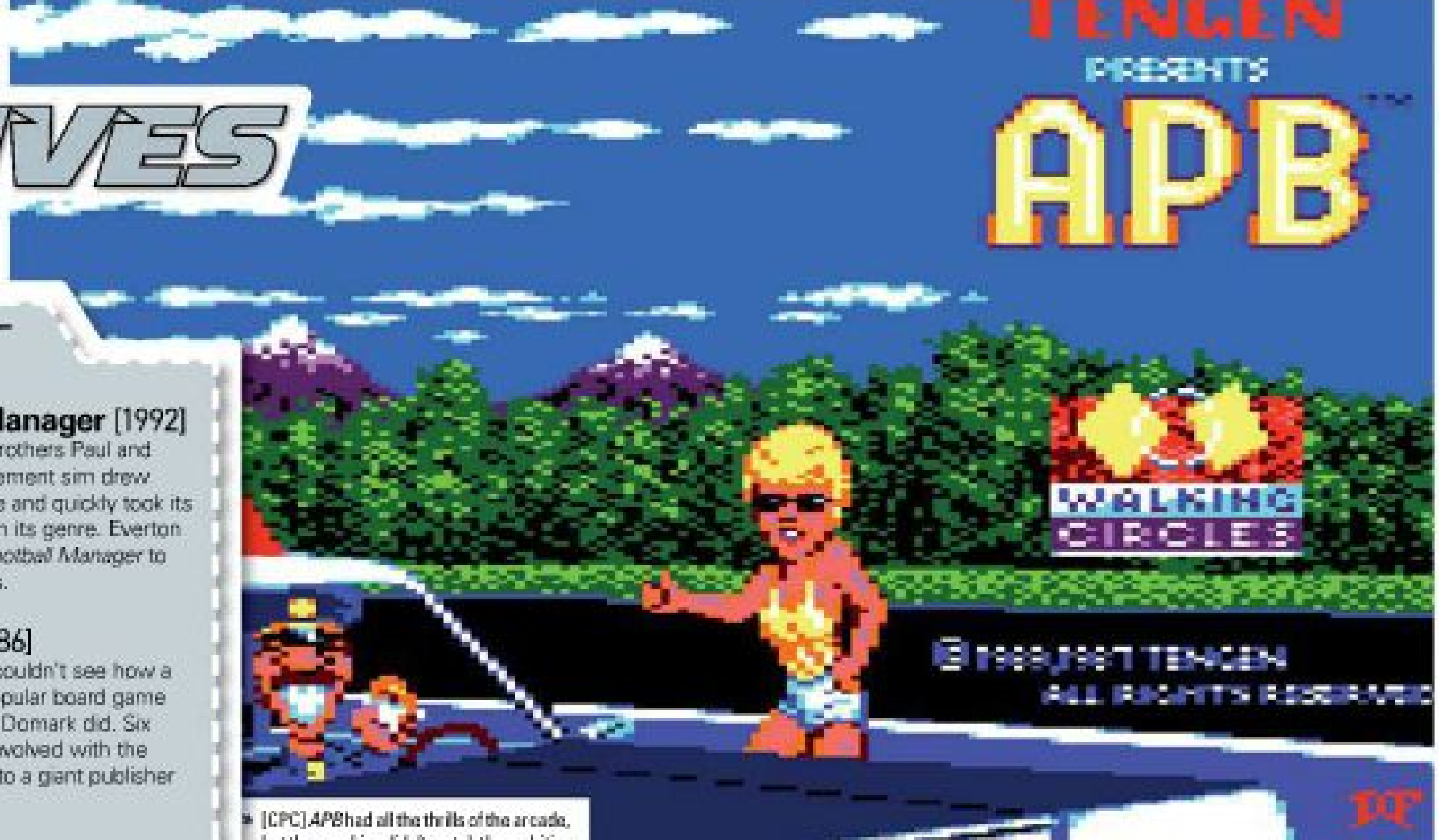


» [PC] With heaps of stats and a passionate developer, *Championship Manager* went down a storm.



» Domark was merged with Eidos in a reverse takeover. *Tomb Raider* became a phenomenon.

FROM THE ARCHIVES



[CPC] *APB* had all the thrills of the arcade, but the graphics didn't match the ambition.

SIX OF THE BEST



Championship Manager [1992]
Written by Everton-mad brothers Paul and Oliver Collyer, this management sim drew heavily on their knowledge and quickly took its place as the finest game in its genre. Everton later used the brothers' *Football Manager* to help scout for new players.



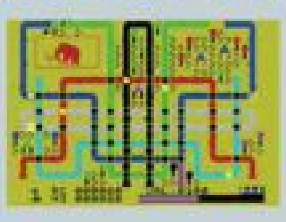
Trivial Pursuit [1986]
Although Leisure Genius couldn't see how a computer version of its popular board game could make a videogame, Domark did. Six players were able to get involved with the fun that turned Domark into a giant publisher almost overnight.



Hard Drivin' [1989]
Published as part of a deal struck with Atari, *Hard Drivin'* was a 3D treat, putting players behind the wheel to perform all manner of stunts, the hardest part of which was staying on the track. It was a bold conversion that deserved attention.



3D Construction Kit [1991]
Incentive Software produced the Amiga and Spectrum versions but Domark handled the rest. The result was an acclaimed endeavour that scored highly for its ability to let people produce their own 3D worlds. It was simple and it was expensive, but it was effective.



Eureka! [1984]
Written by Ian Livingstone, *Eureka!* was Domark's first release. It suited Ian's literary talent given that it was a text adventure, accompanied by arcade game versions. Best of all, the first person to finish it won a £25,000 cash prize.



Prince Of Persia [1990]
A deal with Brøderbund meant Domark was able to publish one of the best platformers ever. It was ported to every platform under the desert sun and was yet another successful deal by a company that was firmly established as a major player.

TWO TO AVOID



Friday The 13th [1986]
This was Domark's videogame nasty, not in the sense that it was filled with gore but because it was such a dreadful game that it was scary it ever got a release. It drew inspiration from the film and was pretty much a cash-in, and a terrible, lazy one at that. Still, Domark could never have been accused of not trying, and so it was that the game earned itself a *Crash* cover, which gathered complaints, and its PR people went into overdrive, with disclaimers warning nervous gamers to beware of playing the game, some blood capsules given away, and a competition chucked in for good measure.



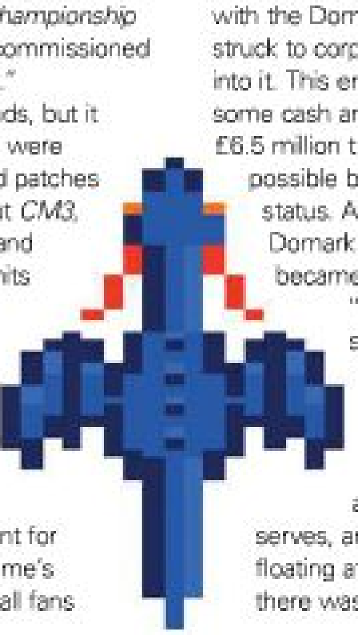
A View To A Kill [1985]
Domark secured the licence for *James Bond* games, a real early coup that helped it to establish itself as one of the premier publishers. *A View To A Kill* was the first game to be based on the famous British spy character, and it revolved around three action sequences, its release coinciding with the cinema opening, befitting a company that had much marketing know-how. The crude graphics could be forgiven, but the game failed to capture the excitement of *Bond*, and it was also marred by the fact that you couldn't be killed. It reviewed rather well at the time but it's terribly dated today.

Oliver Collyer – had produced a football management game, which they pitched to Domark. Dominic wasn't interested until one of his staff said they had been playing the game and couldn't stop. Domark felt there were too many management games and believed it didn't have the expertise to pull it off in a crowded market, but some members of staff were so enthusiastic that the company decided to make the Collyers an offer of £5,000. They snapped it up.

"The idea was brought to me as I sat in my chair in Lacy Road in Putney," says Mark. "I went to see the brothers in a pub in Brighton to chat, and that was the start of it. It was the beginning of a great relationship that benefited everyone."

And benefit everyone it certainly did. "I called a modelling agency and they got some really rough-looking actor, took a photograph and put it on the front of the box, and we called it *Championship Manager*," said Dominic. "We quickly sold the first few thousand units and then we started getting reorders, and more reorders, and more. Suddenly it's doing 20, 50,000 units. I'm like, 'Hey, this is bloody good.' And, sure enough, the boys come down after Christmas and we gave them a cheque for £75,000 and they fall off their chairs. I seem to recall a couple of months later they came back down again driving brand new GTIs. And that was it. We said: 'Listen, you're going to do *Championship Manager 2*, right?' And we commissioned them right there on the spot."

The sequel sold bucketloads, but it contained bugs, and gamers were disappointed. Domark issued patches but it didn't help, so it put out *CM3*, which was much improved and sold a couple of thousand units in the first weekend. The franchise went on and on and became the biggest football management game, making the developers millions of pounds in the process.



"It was a wake-up moment for me," says Dominic. "The game's tagline was: 'Made for football fans by football fans'. And it was true. These boys were absolutely obsessed. You'd ask them about their mother and they'd say something like, 'Mother's great because Chelsea won on Saturday.' They couldn't not talk about football, and they were so passionate. I've found out in life that people who are passionate about their business or their subject tend to be successful, and they just need business people around them to take care of the dirty bits – you know, publishing. If you back them then you'll be successful and bask in their reflected glory."

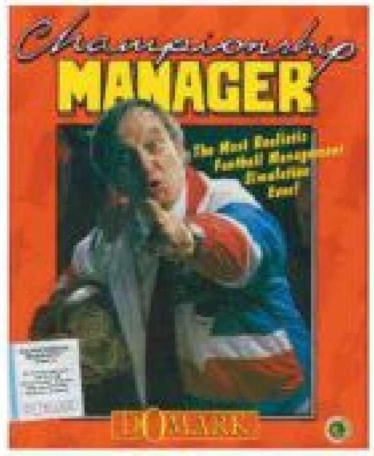
Such enthusiasm was not always apparent. He confesses that his *James Bond* games were under par because the teams were not quite right. In hindsight, he says, they would have found *James Bond* fanatics to develop it. "That wasn't the case for, say, *Star Wars* on the Amiga," he adds. "We had someone passionate on that."

Soon after, Domark became a public company. Dominic and Mark met a man named Charles Cornwall, who had founded a firm called Eidos. It was a small company employing just three people, creating video compression technology particularly for the Acorn Archimedes, but it had no sales. It was, however, floated on the London Stock Exchange, and it had raised £1 million. Cornwall was looking for something better to attach his company to and, during the course of a conversation with the Domark pair, an agreement was struck to corporately reverse Domark into it. This enabled the publisher to grab some cash and go on to raise another £6.5 million through city investors, made possible by its new listed company status. As part of this deal, however, Domark had to change its name. It became known as Eidos.

"The market was hot in 1995 so we got all our money and we got it very easily," says Dominic. "In fact, it was well oversubscribed, and the share price moved from around £3.80, if memory serves, and by the evening it was floating at just under £6 per share, so there was a lot of excitement and lots

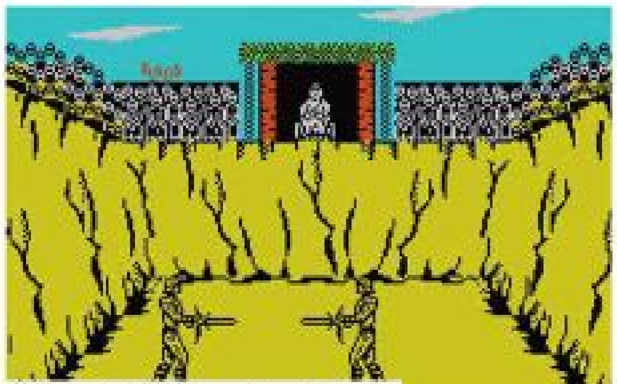


» [CPC] *Pictionary* was yet another board game published by Domark, alongside *Trivial Pursuit*.









» [Spectrum] *Gladiator* was an interesting take on the beat-'em-up genre, being set in Roman times.

of rock and roll. We had all this money to go and do things, and I toddled off back to California. I then got a call from Charles, asking what I knew about US Gold."

US Gold was a company founded by Geoff Brown. Based in Birmingham, it had built a solid reputation, mainly for its coin-op ports. It had floated on the stock exchange a year earlier, but in 1996 Eidos spied an opportunity and acquired CentreGold, which included both US Gold and CentreSoft. The latter, which was the distribution arm of the company, was sold back in an MBO. And while Eidos also snapped up Simis and Big Red Software, it was the move for US Gold that would lead to the opening of a brand new, lucrative chapter for Domark in its new form.

"Along with US Gold came the development studio Core Design," explains Dominic. "It was run by Jeremy Heath-Smith, and I knew him very well. Luckily for us, they were working on a game called *Tomb Raider*, which at the time was just one of the many products on a list of things they were doing. I was a bit dubious about *Tomb Raider* because it sounded very much like *Indiana Jones* and that worried me, but when I later did a presentation of the game at E3, the reception was amazing. I knew then that we were on to something huge."

With Sony and Sega vying for the rights, Eidos was on a roll, and it quickly gained a reputation for being a party company. It employed lots of young, good-looking American men and women, and they were having a ball. "The parties were amazing," says Dominic. "We always had a party at E3 and previous CESs, and it was great fun. One night we had taken over a nightclub housing 1,000 people. It was packed to the rafters. There was a big country and western band, and I was like a king. Everybody was coming up to me going, 'Oh boy, *Tomb Raider* is going to be huge.' And, sure enough, it was, and the rest is history… 40 million copies later."

Following this major success, Dominic's career was at a personal crossroads. Although he was having a lot of fun and he had been in California for five years, his children had been brought up as entirely American and were now six and seven years old. His wife wanted them to be brought up and educated in Britain. "I agreed we'd go back to the UK," says Dominic. "I loved California and my team out there so much, so it was hard. A lot of stuff had changed in the UK office too because Charles was running it, and a lot of people that I hadn't hired – you know, lawyers and people – and I didn't really know were there. Eidos also had a lot of politics at board level and that kind of thing because it was growing so fast. The share price was zooming and I was thinking to myself, 'Right, I want to get back, but I'm not sure I would necessarily want to go on working for the company in the UK.' I decided then that it was mission accomplished for me. People who had put £5,000 or £10,000 into Domark in 1984 came out with [as much as] £15 million."

Dominic announced to Ian – who had himself invested £10,000 – that he was going, following Mark, who left in 1995 and founded a company called Gameplay four years later. "My favourite games in all that time were *Split Personalities* on the C64 and *Star Wars* on the Amiga," Mark says. Mike McGarvey became the CEO of Eidos Interactive.

"That was the end of my dealings with the company," says Dominic. "I just started investing in different things like property. I have a house in France and a restaurant over there somewhere, and I have a few non-executive directorships of mobile phone companies. I eventually wanted my own gig and today I run a company called SocialGO. One thing's for sure, though: I had a ball helping run Domark."

"I was sitting in my room at Caesars Palace, wondering who I was going to meet"

DOMINIC WHEATLEY'S FIRST CONSUMER ELECTRONICS SHOW

HOW DOMARK NEARLY WENT BUST

Marko's Magic Football nearly killed Domark. After much money had been spent on the game, the lead programmer left and the Oliver twins were asked to finish it. They reconstructed the game, but all of this meant it was released late.

Worse, however, the UK sales team ordered 200,000 cartridges, which had to be paid for up front, costing £2 million.

"Sega and Nintendo demanded the payment of cartridges up front, so the greater success of a game, the greater cash you needed," recalls Mark. "A hit of 1 million cartridges would cost around £10m, and very few UK companies had that liquidity. It wasn't good."

"I got a phone call from my finance director while I was lying in bed in California at 7am," says Dominic. "I climbed out of bed, got myself a ticket, and was on the next plane back to London and straight to the bank."

One of the bank managers wanted to fold the company. "I said, 'Look, there's the keys. If you want it, you take it. You're going to get nothing back. You're going to get absolutely fucking nothing.' I then added, 'Or give me another £300,000 for cash flow on top of what we've taken and I'll make changes on the management.'"

He showed the recovery manager their cash flow forecast and product schedules. The recovery manager agreed. Shortly after, Domark was merged with Eidos and the company's fortunes were secured.



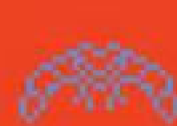
» [CPC] *3D Construction Kit* allowed people to produce their own three-dimensional artwork and move around it.

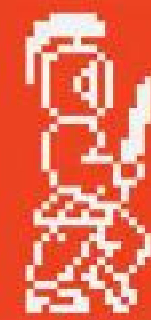


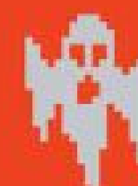
» [Spectrum] A wonderful variation on an otherwise familiar theme, *Badlands* was a belter of a game.

Minority Report

Look beyond the most iconic systems and more widely celebrated titles of gaming, and what you find are many lesser mentioned games offering equally memorable experiences. We track some of them down...







SWORD OF DESTINY

■ SYSTEM: C16 ■ DEVELOPER: MICRO PROJECTS ■ YEAR: 1985

» C16



[C16] Venturing into the Abyss of Death, the heartland of an evil warlock.

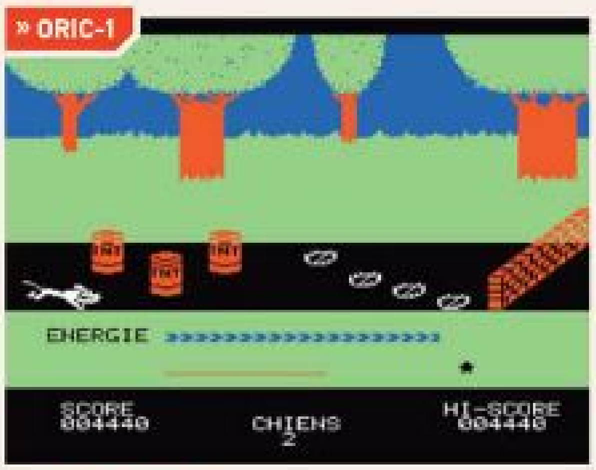
■ **The Commodore 16 was proposed in 1983 in order to address a number of concerns.** It would be Commodore's new budget system, replacing the ageing VIC-20, and would compete not only against computers imminently expected from Japan, but also the cheaper systems of CBM's rivals – Sinclair in Europe, and Texas Instruments in the States. When the system launched the following year, though, TI had left the computer market, Sinclair had dropped its prices, and the Japanese invasion had plateaued.

With no budget opposition stateside, and a cheaper system already entrenched in Europe, the C16 lacked purpose and was seen as a risk by many publishers. However, Gremlin Graphics, among others, took their chances, often releasing high-quality fare such as Micro Projects' *Sword Of Destiny*.

Defeated and slain by the evil warlock Xorphas, his heart torn brutally from his chest, the spirit of the legendary warrior Kelok, a wandering soul with no chance of respite, now faces an eternity of torment. With hope all but lost, and only the magical Sword of Destiny to protect himself, Kelok ventures into the heartland of his enemy, a place so vile that it is only mentioned in whispers: the Abyss of Death. Somewhere in the depths of this hellish labyrinth lies the warrior's heart, without which Kelok can never rest in peace.

Death's guardians haunt the path to his salvation: ghostly apparitions, the yellowed skulls of the damned, creatures of the night and their familiars, all of which drain vital astral

» ORIC-1



» DOGGY

■ SYSTEM: ORIC-1
■ DEVELOPER: ERIC CHAHI ■ YEAR: 1984

■ **In this early** offering from the talented developer of *Another World*, you play a lost dog trying to get home. This is actually a very cheerful game, with colourful cartoon graphics and an enthusiastic rendition of *In The Mood* playing during proceedings. En route to your kennel, you face a side-scrolling obstacle course littered with traps, roadblocks, TNT and fallen trees – all of which have to be sidestepped or leapt over. Collisions drain an energy bar, and an on-screen meter measures your progress towards home. Though simplistic, the gaming on offer is remarkably compulsive and beautifully presented.

» PC ENGINE CD



» STAR PARODIA

■ SYSTEM: PC ENGINE CD
■ DEVELOPER: HUDSON SOFT ■ YEAR: 1992

■ **There can be** few better ways of commemorating the sad passing of Hudson Soft than by putting some quality time into this celebration of everything that made it so great. Genre-wise, we're in vertical shoot-'em-up territory, playing either Bomberman, the *Star Soldier* ship or a PC Engine – no, really. Hudson Soft references abound – the Hudson locomotive, the spacecraft from *Gunhed*, and even HuCards are all fitted in. The difficulty curve is perfectly pitched, with a gentle introductory level allowing you to acclimatise before the screen fills with projectiles, power-ups and cameo-making protagonists.

» SATURN



» ASTAL

■ SYSTEM: SATURN
■ DEVELOPER: SEGA ENTERPRISES ■ YEAR: 1995

■ **Beautiful hand-drawn** backgrounds, parallax scrolling, surreal characters and superlative platforming weren't enough to ensure success for this early Saturn effort, as 2D gaming had fallen out of fashion. The role of your character is that of a protector, attempting to rescue a female counterpart and restore order to an otherworldly realm. Nightmarish creatures stand in your way, but moves like blowing opponents away and two-fisted aerial attacks help keep the gameplay fresh. Also of note are the accomplished visual effects and ambitious mechanics, which make good use of the hardware.



[C16] Making use of a hot air flue to soar up from out of the depths.



[C16] Discovering a dimly glowing artefact that will mystically reveal the way out.



» ABOUT THE SYSTEM

- The C16 replaced the ageing VIC-20, becoming Commodore's new low-cost system.
- It was intended to compete against European, American and Japanese budget rivals.
- US demand for cheap computers waned, Japanese imports plateaued, and key European manufacturer Sinclair dropped its prices, leaving the C16 without a market.

power when they attack, but restore it if vanquished. Falls from height and Kelok's use of his sword also deplete this essential energy source, which is no small matter, as it serves to animate his spirit, and therefore his flight from purgatory depends on maintaining this ethereal life force.

His journey is only made harder by the incantations cast on each of the chambers in the shadowy lair. These trap him within unless he can locate a dimly glowing artefact that mystically reveals the way out. As these often lie deep within each chamber, Kelok must make good use of the hot air flues found in the abyss to make his way back up from the depths, as when jumped upon, their updraft will launch the warrior skyward.

The C16 has its fair share of action adventures, but *Sword Of Destiny* has to be one of the most attractive, with large, smoothly animated sprites and detailed backgrounds that make excellent use of the system's colour palette. The audio, although limited to sound effects, serves its purpose, and the title's central mechanics of fight and avoid alongside collecting and platforming are a well-worked combination. At 100 flick screens, the gaming area is also pretty vast considering the host machine's memory limitations. Most importantly, these different aspects of the title have been lovingly pieced together, with slick presentation throughout.

Of course, the failing of many games is misjudged gameplay, but thankfully this doesn't apply to *Sword Of Destiny*. Its difficulty level is near-perfect, it seldom feels unfair, and you always want to have just one more go.



[C16] Ghostly apparitions and creatures of the night haunt the path to salvation.

» VIC-20



» MAZE

■ SYSTEM: VIC-20
■ DEVELOPER: HES ■ YEAR: 1983

■ **Equipped with only** a few bombs and thoughts of treasure, you set off into a smooth-scrolling maze infested with one-eyed robots and murderous red smileys. Treasure, once found, must be returned to the maze's start; retrieve it all and you get a key that unlocks a door leading to the next round. Your bombs are unreliable, though, with each being of varying destructive force and your dogged foes adept at avoiding their blasts. Tight controls, however, ensure that the frantic action never frustrates, and in terms of gameplay, *Maze* is an impressive achievement, with little compromise based on the system's limitations.

» GAME GEAR



» SHINOBI II: THE SILENT FURY

■ SYSTEM: GAME GEAR
■ DEVELOPER: SEGA ■ YEAR: 1992

■ ***Shinobi*'s first Game Gear** outing is often praised, but its sequel is equally worthy. Your mission is threefold: rescue four fellow ninjas, retrieve five elemental crystals, then defeat your sworn enemy, the Black Ninja. As with its predecessor, the animation in *The Silent Fury* is smooth, and the fight-and-collect formula works well, but the gameplay has been subtly improved upon. Locations can now be revisited, allowing exploration of inaccessible areas after rescuing differently skilled ninjas. This is key to finding crystals, and results in far less linear gaming, which adds to this polished gem's replay value.

» C64



» CREATURES 2: TORTURE TROUBLE

■ SYSTEM: C64
■ DEVELOPER: APEX ■ YEAR: 1992

■ **Released late in** the C64's commercial lifespan, this gorgeous, maddeningly addictive platform/puzzler deserves a much higher profile. Essentially, you have to solve devious puzzles, utilising inanimate objects and wild animals, in order to free creatures called Fuzzies from horrible fates involving acid, campfires and chainsaws. The puzzles, which require lateral thinking and patience, are set over three platform-laden, demon-ridden islands, interspersed with skill-based bonus levels and underwater island hops. Although brutally hard, this is a seriously compulsive game. It's also a classic in its own right.

Future Classic

Modern games you'll still be playing in years to come





INFO

» **Featured System:** PlayStation 2
» **Year Released:** 2001
» **Publisher:** Sony
» **Developer:** Naughty Dog
» **Key People:** Andrew Gavin, Jason Rubin (designers), Mutato Muzika (composer)

GO DEEPER

» **Beating the game with all 101 Power Cells unlocks a cut-scene of Daxter reverting back to his goofy human form.**

» **In preparation for making *Jak And Daxter*, Naughty Dog had dev kits for months before any other developer outside of Japan, with the exception of EA.**

JAK AND DAXTER: THE PRECURSOR LEGACY

23.

Undoubtedly a tribute to the Nintendo 64 era of the 3D adventure platformer, Naughty Dog's Jak And Daxter is a fantastic example of a genre now missing in action

THE BACKGROUND

Following the close of the PlayStation era, the completion of *Crash Team Racing* and the sale of the *Crash Bandicoot* licence, the successful Sony-owned dev Naughty Dog set itself the goal of creating a new fictional world that was completely seamless on the incoming PS2 hardware. Naughty Dog asked its artists to envision what the world of their new game might look like – *Aladdin* would be counted as one of its stronger sources of inspiration. *Jak And Daxter* had high-end animation for an early PS2 title, part of the studio's drive to master the hardware in a way that no other developer had, which also entailed creating a whole range of in-house custom tools for the project.

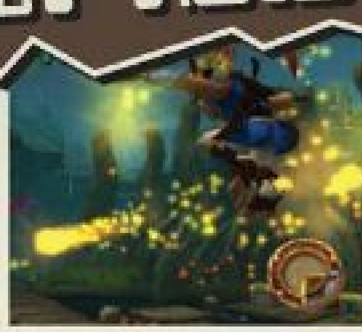
Mario 64 was a huge influence on the staff, too. Instead of collecting a lot of random elements into one unruly world, creating a sense of continuity between environments and objectives was really important for Naughty Dog, and this is reflected in the way that there's a miniature story to every side-quest across the game. Some members of staff at Naughty Dog felt they had brought a title with elements normally associated with Nintendo to the PS2. Ultimately, *The Precursor Legacy* was a critical and commercial hit, spawning sequels that were solidly made, yet lacking the same spark in overall design.

THE GAME

At the time of release, members of the press often declared that *Jak And Daxter* was a mixture between *Crash Bandicoot* and one of a few Nintendo games – *Zelda* and *Mario 64* being the most prominent examples. That was high praise for *The Precursor Legacy*, which very much had the same accessible interface and lighter tone of a typical Nintendo title, adhering to the rule that the main character simply has to feel satisfying to play as you manoeuvre them through any given level. While *Crash* was a structured platform affair, *Jak And Daxter* encompassed a wide range of different environments and challenges, yet grounded it all in the same constant experience.

The ultimate objective in *Jak And Daxter* is to gather 101 Power Cells – read: stars – but the quests to attain all of them are exquisitely diverse, challenging the player to explore, race, fish, gas plants, destroy flying elephants, herd

Things of note




No Load Screens!

The cut-scenes are a bit talky, but *Jak And Daxter* uses them to hide loading screens completely in the game – a huge technical breakthrough at the time, and one that really enhanced the gameplay.

Jak And Daxter, MIA

Although the two heroes are going to crop up in Sony's *Smash Bros* equivalent in the near future, Naughty Dog decided not to pursue a new *Jak* game some time ago, putting the series on hiatus.

Silent hero

As per videogame tradition, Jak is a silent hero in the first game, with Daxter filling most of the silences with annoying quips. In the second instalment, Jak gets a voice, but it doesn't add anything to the story.

Jak HD

The *Jak Collection* released by Sony this year collects the first three games in the series together, and it's another fine tribute to a bygone collection of games – certainly the best way to play *Jak* today.

Abandoning Crash

Naughty Dog took a risk in leaving *Crash Bandicoot* behind, a series which sold over 20 million in under a decade. It has since done the same with *Jak*, choosing to leave it behind when starting with the PS3.


» [PS2] The whole world is seamlessly drawn together – it contains everything from an Atlantis-style city to a volcanic speedway.


» [PS2] Sentinel Beach requires a bit of lateral thinking to figure out how the solutions to its many puzzles.


» [PS2] Some of the Blue Eco challenges are a right ruddy headache to solve.

What the press thought



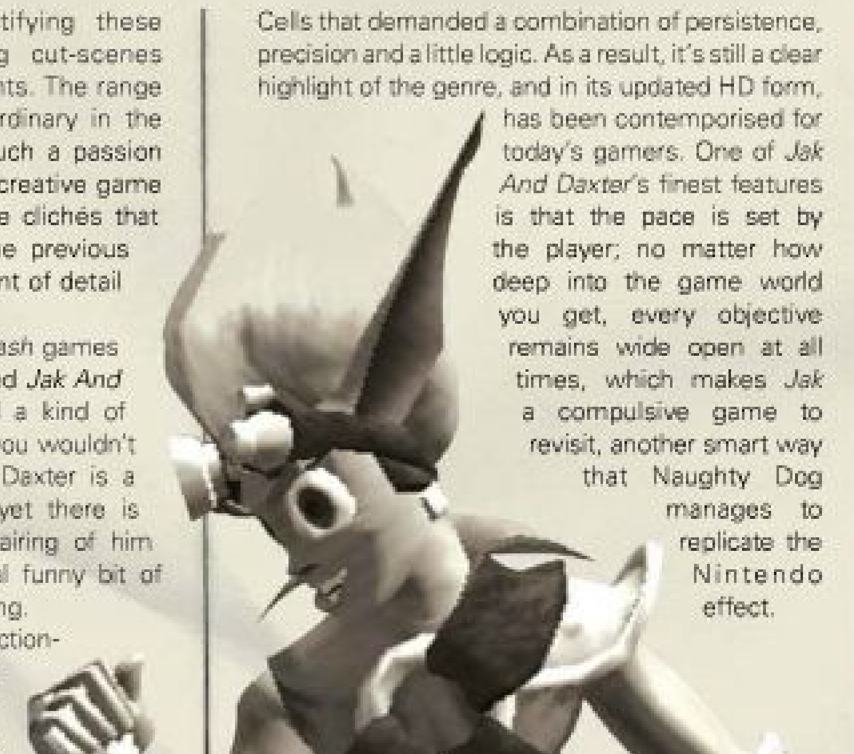
Play
Score: 9/10
"*Jak And Daxter* manages to offer something for everyone – if you're after a game that brings back fond memories of games gone by, you're in for a treat."

GamePro
Score: 9/10
"Its premise is straightforward, yet there's so much to do and see, along with some sizeable challenges that will test even the brightest adventure veterans."

creatures and loads more, justifying these bizarre scenarios with amusing cut-scenes featuring the world's many residents. The range of objectives was nothing extraordinary in the wake of *Mario 64*, but there's such a passion in the way they dovetail with the creative game world, which subverts a lot of the clichés that dogged 3D platformers during the previous two generations, due to the amount of detail invested in this backdrop.

Like Naughty Dog's range of *Crash* games on the PSone, the developer infused *Jak And Daxter* with its own identity, and a kind of irreverence in the cut-scenes that you wouldn't normally see in a Nintendo title. Daxter is a typically annoying sidekick, true, yet there is something endearing about the pairing of him with Jak, thanks to the occasional funny bit of dialogue and enthusiastic voice-acting.

Yet it's the artform of building an action-adventure world that is on display here – Naughty Dog deliberately set out to make something moreish, and they succeeded, filling every pocket of the world with Power Cells that demanded a combination of persistence, precision and a little logic. As a result, it's still a clear highlight of the genre, and in its updated HD form, has been contemporised for today's gamers. One of *Jak And Daxter*'s finest features is that the pace is set by the player; no matter how deep into the game world you get, every objective remains wide open at all times, which makes *Jak* a compulsive game to revisit, another smart way that Naughty Dog manages to replicate the Nintendo effect.



WHY IT'S A FUTURE CLASSIC

In *The Precursor Legacy*, Naughty Dog created a high-end pastiche of different gameplay ideas, some of which it pioneered, and others that were obviously Nintendo-inspired. Far from a rehash, however, it's one of the strongest platformers ever made.

Today, when this type of game sadly no longer seems to have a place in the shooter-heavy industry, it remains exactly as distinctive as it did in 2001. *Jak II* would absorb a trendier open-world carjacking template, which would create a more monotonous rinse-and-repeat mission style, deviating from the mindset that made *Jak* the collision of different genre ideas that we love.

Jak's advantage is its anti-repetition; the world is built for the purpose of variety, whether the player bombs through it or pores over every detail. Naughty Dog is one of the strongest brands associated with PlayStation hardware, and *Jak And Daxter* cemented that reputation beyond the much safer *Crash Bandicoot* titles. That early ambition with the PS2 technology brought the very best out of the developer.

INSIDE THE ATARI 2600



THE ATARI 2600 IS PERHAPS THE MOST ICONIC CONSOLE IN EARLY VIDEOGAME HISTORY, AND SO SYNONYMOUS WITH THE ATARI BRAND THAT IT'S OFTEN SIMPLY REFERRED TO AS 'THE ATARI'. MARTY GOLDBERG TAKES YOU BEHIND THE SCENES OF THE DEVELOPMENT OF THIS INDUSTRY-DEFINING CONSOLE

For something that reached such lofty heights as the 2600 did, it should be understood that there were no great aspirations in mind when the synapses fired that led to it flickering into consciousness. It began as a humble idea; a simple, and inevitable next step – though one that would still take doing something never done before. "The architecture was pretty obvious to everybody," said project leader Al Alcorn, then head of consumer engineering. "The business was dedicated game chips, and obviously if you could get a microprocessor and a game in ROM, that was an idea that had legs to it."



What became the Atari 2600 began when Steve Mayer and Ron Milner were coming back from one of the many trips back and forth between their Cyan Engineering headquarters in Grass Valley and Atari Inc's base of operations in Los Gatos. Grass Valley was serving as Atari's R&D group for all its new coin-ops and related projects, a relationship that started in 1973.

Cyan had been founded by Mayer and Larry Emmons – two engineers formerly of Ampex's Videofile division, the same stomping grounds as Atari co-founders Nolan Bushnell and Ted Dabney. As the coin-op videogame field began to quickly grow with competitors, Bushnell knew he needed to stay ahead of the competition by continually releasing new games. He soon struck up a working relationship with his former Ampex colleagues, and Cyan became an important part of his strategy. Enough so that he soon bought it outright.

Cyan would build the wire-wrap prototypes for Atari's early Seventies arcade games, which were then sent down to Atari to be turned into the fully laid out production versions of the games. Quite often they were breaking new ground in their designs. As Nolan put it, "Cyan was building the technical stuff that people said couldn't be built."

It was during the summer of 1975 that Cyan would hit on its most important contribution, thanks to Mayer and Milner. The question they had been asking themselves on the trip back was whether or not they could leverage microprocessors to create a game console that could support multiple interchangeable games. The reason it was on their minds was because in several months Atari was poised to enter the consumer electronics market for the first time. *Pong* was set to invade the home via a relationship with retailer Sears.

The move was made possible due to Atari engineer Harold Lee, who managed to cram Al Alcorn's entire original *Pong* arcade design into a single dedicated chip. Now, together with Sears' consumer electronics industry guidance and a new manufacturing plant paid for by investor Don Valentine, the Sears Tele-Games-branded home *Pong* would begin a new chapter in Atari's history. The company was already planning follow-up consoles based on the same innovative technology, looking to expand with home releases of the many *Pong* 'sequels' that it had put out in the arcade.

This is precisely what led to Milner and Mayer pondering the use of microprocessors for a future console. There was an obvious ceiling on the use of the '*Pong*-on-a-chip' technology: you needed an entirely new custom chip each time you wanted a new set of games. Using a microprocessor meant you could simply use the same main chip and load new game software any time you wanted to play a different game.

As it turns out, management had also been pondering the idea but wanted to take it a step further. "Nolan, Joe [Keenan, Atari president] and I sat around as a team and decided we needed a cartridge-based game system," said Al. With Alcorn giving the go-ahead to Milner and Mayer to being the research, upon returning to the Cyan facilities the duo began investigating what microprocessors were available on the fledgling market to start basing their proof of concept around.

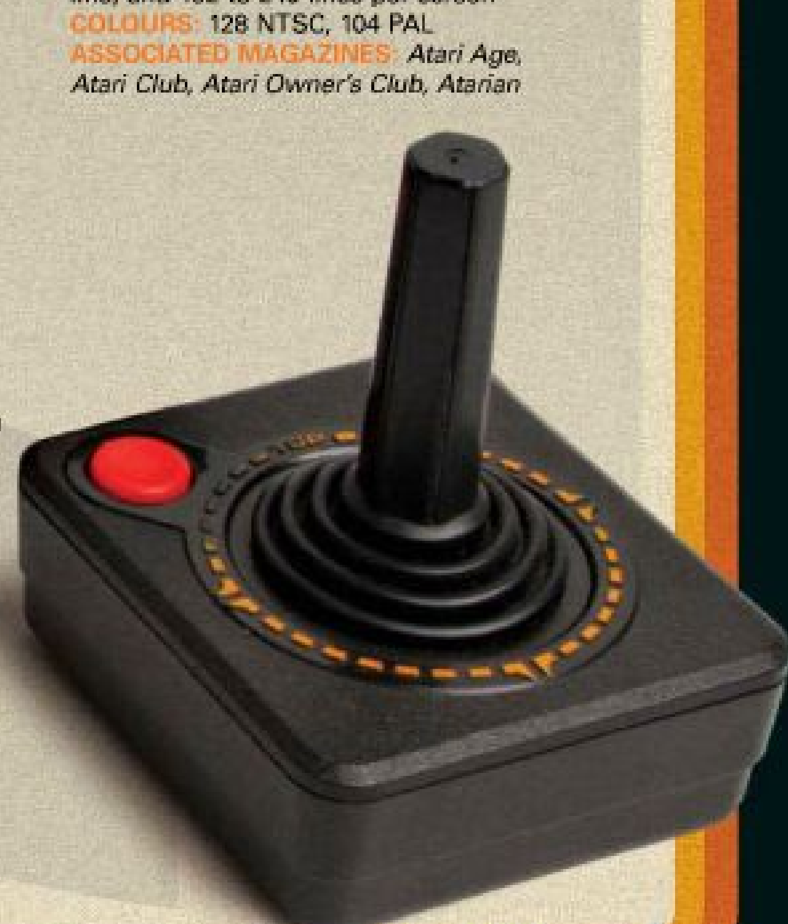
CHOOSING A MICROPROCESSOR AND A REBEL NAMED PEDDLE

Motorola and Intel were the two leaders in the nascent microprocessor industry, which began four years earlier with the introduction of Intel's 4004 chip and was now maturing through Intel's 8080



Knowledge Bank

LAUNCH DATE: 14 October 1977
LAUNCH PRICE: $199
DIMENSIONS: 358.78 x 234.95 x 65.25cm
WEIGHT: 552g
PROCESSOR: MOS/Signetics 6507 (running at 1.19MHz)
RAM: 128 bytes
DISPLAY: Between 256 and 320 pixels per line, and 192 to 240 lines per screen
COLOURS: 128 NTSC, 104 PAL
ASSOCIATED MAGAZINES: *Atari Age, Atari Club, Atari Owner's Club, Atarian*



HOW IT WORKS

A GUIDE TO THE KEY INTERNAL COMPONENTS THAT MAKE UP THE LAUNCH ATARI 2600

CARTRIDGE PORT
Besides being the location where game cartridges are plugged in, it also functions as an expansion port of sorts. Later items like keyboards and extra RAM used the cartridge port to interface with the 2600's internals.

CONTROLLER PORT
Two DB-9 ports used for plugging in a variety of controllers and peripherals. Their innovative use allowed the 2600 to have a multitude of potential controllers at a time when controls were normally hardwired to the console.

CONTROL SWITCHES
Housed on a separate PCB that's joined by a ribbon cable to the main board, these are the iconic control switches used in the early models of the 2600. These are (left to right) the power switch, TV type (colour or black and white), left difficulty, right difficulty, game select (for cycling through the many game variations provided in a cartridge) and reset. In 1980 the difficulty switches were dropped from the front and moved to the back near the joystick ports. By the later launch of the 2600 Jr, all the switches were replaced by plastic sliders.



CPU
The 2600's microprocessor is the 6507, an altered version of the venerable 6502. Missing some of the signal and interrupt lines from the 6502, it can address up to 8K memory natively – though later developers got around this with a technique called bank-switching. This microprocessor was also used as a floppy disk controller in Atari's later 8-bit computer line.

RIOT
An acronym for RAM-I/O-timer, it was more formally called the MOS Tech 6532. It includes the sole RAM on the 2600 – 128 bytes worth. The chip also reads the ports and the six control switches for the console.

TIA
Standing for television interface adaptor and originally known as Stella, this is the guts of the 2600's graphics and sound.

SPEAKER RISER
Late in the design of the 2600, it was decided to switch from internally mounted speakers as in other mid-Seventies consoles to sending the audio out directly to the television set. The speaker risers present in the launch model show the decision came too late to change the moulding of the case.

R/F MODULATOR
The picture generated by the TIA is passed to the modulator for display on VHF channel 3. Though to make it more complicated for collectors, some versions of the launch model also have a channel selector switch for channels 3 and 4, or just the hole for one in the case with no actual switch.

and Motorola's 6800. With industry stalwarts Fairchild Semiconductor and Texas Instruments not far behind, sources for the technology seemed to be abundant.

Ron and Steve proceeded to put together several different wish lists for various experimental microprocessor-based game consoles, even going so far as to contact Motorola on pricing. The concept of the console itself went through a series of revisions at this time, including the possibility of producing several 'dedicated' versions, with a group of games built in to each through ROMs.

The problem for an engineer designing a new games console, though, was that the microprocessors currently on the market were still too expensive: around $100 to $300 each. A trip to the 1975 electronics industry convention, Wescon, that September would soon change that.

The Western Electronics Show and Convention (Wescon), at this time, was the premier electronics industry trade show in the US. If you were an engineer in the electronics field, it was your E3. Milner and Mayer just so happened to be doing their research shortly before the 24th annual Wescon, which was taking place in San Francisco that year. They decided to make the trip after receiving a letter from a new, unheard of company, inviting them to come take a look at its new microprocessor. They were soon to discover that the company was a young upstart in microprocessors, in an industry that was itself very young, and was poised to rock the foundation. That upstart? MOS Technology, which was led by Chuck Peddle.

Peddle was a former Motorola employee, joining the company in 1973 to finish its fledgling microprocessor project, based in Mesa, Arizona. After fixing flaws in Motorola's initial design for its first chip, the 6800, and designing the crucial support chip needed for its connection to peripheral devices, Peddle wanted to move on to do a second-generation, cost-reduced version. Unfortunately, Motorola wasn't interested in developing any more microprocessors at the time, so, undaunted, Peddle decided to pursue the development on his own. Eventually partnering with an old business acquaintance, John Pavinen, Peddle brought his project to John's company, MOS Technology. MOS had been dying in the crowded calculator market, and the lure of a low-cost microprocessor proved too great to pass up. So, as Motorola was debuting its 6800 for $300 in August 1974, Peddle and seven co-workers were leaving to begin designs on its low-cost competitor.

Their goal was to sell the new chip in the $20 to $25 range, and offer a series of microprocessors and support chips. They decided to name the series '6500', to directly associate it with Motorola's 6800. The 6502 would be the main microprocessor in the series, which also included a series of support chips to allow connection to various peripherals, just as Peddle had pioneered at Motorola.

The upcoming Wescon was their target for the introduction and initial sales, and that August MOS Technology began placing ads in industry magazines, offering to sell a full microprocessor for $25 right there on the Wescon show floor. While the first half of the offer caught the public's eye, it was the latter that infuriated the Wescon organisers when they heard about it. Wescon was an industry trade show, not a flea market. Upon arriving to set up in their stand at the expo, Peddle and the MOS Technology people were promptly told that under no circumstances would they be selling their chips at the show where everyone in Silicon Valley would be coming to see it – including the guys from Cyan.

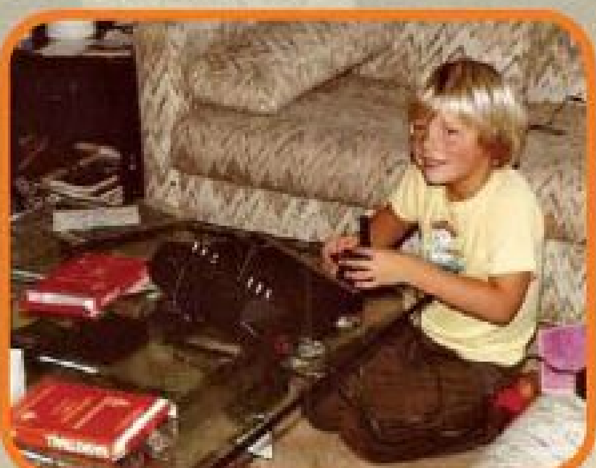
"Microprocessors meant you could load new software to play a different game"

Being quick-thinking, Peddle came up with another solution. There was nothing prohibiting them from selling away from the show floor, nor mentioning where to go to buy the chips, so they used their booth for the standard presentation but directed people to their hotel suite to actually purchase the hardware. Peddle stationed his wife just outside the suite with a barrel of microprocessors and a stack of manuals. People would buy the chip and accompanying documentation from her, and then enter the suite to see the full series and support chips demonstrated by Peddle and company on fully functioning trainers (TIM and KIM-1), which they had also designed.

It wasn't long before a large line of hopeful engineers started developing, including a young man looking to build a personal computer, Steve Wozniak. Also among the throngs of engineers were Milner and Mayer, who were both just as impressed with the barrel of microprocessors as the others in line were. Little did they know, though, that only the top half of the barrel contained working chips.

After getting their 6502 with documentation, the two headed in to see Peddle and his people demonstrating the trainers. They met and talked for about an hour and a half, finally negotiating with Peddle to come over to Cyan the next day to discuss plans for using MOS's 6502 and support chip in their proposed game system.

Peddle and his team headed over to Cyan, where they met and negotiated over the next two days.



The joy of becoming a proud owner of this state-of-the-art gaming system during the holiday season of 1977. One of Joe Decuir's favourite moments was watching kids like this play his creation at a store display during the launch.

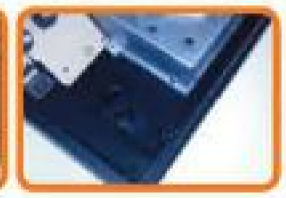
THE CHANGING OF THE 2600





The launch version of the 2600 features a heavy duty thick plastic casing with characteristic curved edges, only seen on this model. In 1978 the look was changed to a much thinner and boxier style. Likewise the launch version includes six switches to control the power, colour/black and white, left difficulty, right difficulty, game select and game reset settings. Also present in the 1978 model, in later versions of the 2600 the difficulty switches were moved to the back.





Initially the 2600 was to have all sound through internal speakers, but this was changed to go through the TV speakers after the case moulds had been done. As such, the speaker holes in the 2600's top half and the speaker risers in the bottom half are still present. Some early revisions of the light 1978 model also have these present to various degrees.

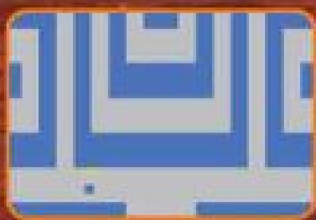


The launch version of the 2600 is called the 'Heavy Sixer' by collectors. As seen here, it gets its name from the heavy metal shielding meant to block the electronic interference generated by the 2600. The FCC (Federal Communications Commission, the governing body in the US for regulating broadcasting) had not created its special class for devices like this yet, so the shielding was added to meet the current standards. The 1978 model left out the heavy shielding, and together with its cosmetic changes is sometimes referred to as the 'Light Sixer'. It's a common myth that only Heavy Sixers were made in Sunnyvale, but the early runs of the Light Sixers were made there as well.



The motherboard of the 2600 is actually quite small, and besides the ribbon cable to the switch board and the cartridge port, it contains three main chips. (Left to right) The 6507 CPU, the MOS RIOT chip and the TIA graphics chip.

10 GAMES THAT DEFINED THE ATARI 2600



ADVENTURE
YEAR RELEASED: 1979

Warren Robnett's *Adventure* was a massively defining game and not just for the Atari 2600. In addition to being one of the earliest examples of a developer sneaking his name into a game, it also allowed players to stash items and went on to popularise the adventure genre, which has since been championed by everything from *Haunted House* to *The Legend Of Zelda*. It went on to sell 1 million units, which isn't bad for a game inspired by a text adventure.



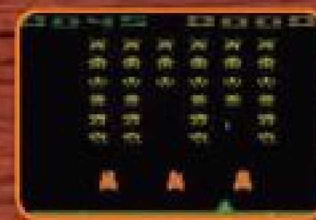
E.T.
YEAR RELEASED: 1982

Howard Scott Warshaw's *E.T.* helped define the 2600 as well, but for all the wrong reasons. Originally envisioned by Warshaw as an innovative companion piece to the film, late negotiations for the rights meant that he had just five weeks to get the game ready for Christmas. Although it sold over 1.5 million units, Atari Inc actually ordered 4 million, and as a result had to send surplus copies back, with rumours suggesting that the cartridges were used as landfill.



YARS' REVENGE
YEAR RELEASED: 1982

In the same year that he created his most notorious game, Warshaw also shipped his best. Starting off as a port of Cinematronics' *Star Castle*, Warshaw remoulded the game into something completely original. The end result was an amazingly innovative shooter that became so popular it even spawned its own theme song and a radio drama based around the comic book that featured the original story. It went on to become the bestselling original title for Atari's console.



SPACE INVADERS
YEAR RELEASED: 1980

There are few games as defining at Atari's port of *Space Invaders*. It was the first licensed arcade game, became the first console videogame to sell over a million units – it eventually sold over 2 million in its first year – and defined the term 'killer app' when its sheer popularity saw the 2600's sales quadruple after the game was released. Not bad for a machine that was already three years old at the time. Although not very arcade accurate, it sported 112 different gameplay variations.



COMBAT
YEAR RELEASED: 1977

Combat was inspired by *Tank*, but improved on the original arcade game by offering 27 different gameplay modes that were also inspired by other arcade games. Available as one of the Atari 2600's nine launch titles, it's remembered by virtually every 2600 owner, due to being the game that was actually packaged with the console. Steve Mayer, Joe Decuir, Larry Wagner and Larry Kaplan created one of the earliest examples of a two-player game on the machine.

> "Motorola sued Peddle and MOS Technology for theft of engineering drawings and trade secrets"

Steve and Ron's previous dream specs were discussed, as well as needs, possible board designs, and financial targets. In the end, Cyan decided to sign on with MOS Technology's chip, but not the 6502. Because it was targeted for a mass-produced game system, cost was an issue and the proposed 6507 was more in line to meet that goal. With the 6507 and the support chip, they'd just need to design a processor for graphics and sound support.

MOS had a relationship with another engineering firm by the name of Microcomputer Associates, which had developed the debugging software for MOS's training systems and had its own development system that was being publicly sold the following month, complete with a terminal interface and built-in debugging software. Called the Jolt, it was decided to use this as the main board of the console during development of the custom chip.

One last hurdle remained. Both MOS and Atari/Cyan wanted to set up a second manufacturing source for the chips. MOS wanted it because setting up a second source would give it more credibility in the microprocessor market; Atari wanted it as a backup in case MOS went out of business, which would not be that uncommon. Atari also wanted to deal with someone on the West Coast, instead of out east where MOS was located. It turned out both companies had someone in mind, and both were thinking of the same company: Synertek.

Peddle had worked with the Synertek president and co-founder, Bob Schreiner, during their tenure at GE. He also knew Schreiner wanted to get into microprocessors and was more than happy to help his old friend out. Atari wanted to work with Synertek because they already had a working relationship – Synertek was the company doing the '*Pong*-on-a-chip' IC layout and manufacturing.

With everything settled by the next month, Milner and Mayer notified the other microprocessor manufacturers that they were no longer interested in their products and were going with MOS instead. That was fine for most of the manufacturers, since the Cyan contract was not considered the 'big money' deal they were looking for. Fine, that is, for all except one.

Motorola, which had kept an eye on Peddle, sued him and MOS Technology for theft of engineering drawings and trade secrets exactly one week after the announcement. Using the short turnaround time between Peddle's departure and the production run as evidence, and the fact that the 6501 model was pin-compatible with Motorola's 6800, it filed suit on 3 November 1975. Here was the exact reason why Atari wanted a second source, with the possibility of an injunction preventing MOS from doing any manufacturing. Motorola eventually won the suit, though not against the 6502. The terms called for the destruction of all 6501s and a payment of $300,000 for the legal fees. Though it would end up making the 6501 a very collectable chip for computer enthusiasts today, it was of little concern to Atari and Cyan at the time. They had their second source, an extremely cost-effective base design, and the talent to begin their next-generation gaming console.

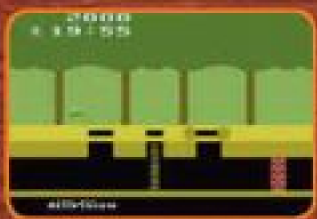
PROOFING STELLA

By December 1975, Milner and Mayer were able to get a working, although buggy, prototype to play a home version of Atari/Kee's hit arcade game, *Tank*. Using the 6502/Jolt setup along with the beginnings of a custom graphics chip, the two had even appropriated the actual joysticks from a *Tank* coin-op for the primordial system's controls.

At that point, a young engineer was hired by Alcorn to help debug the project and bring it back from Cyan to Atari for its next stage, working as a bridge of sorts. Joe Decuir was a graduate of the local UC Berkeley and working in medical instrumentation design, and looking for a way out. "We were using expensive new equipment to try heroically to save people in really bad shape," he revealed. "Most of them – 91 per cent – died either way. It was kind of demoralising."

A friend of Decuir's, Ed DeWath, had known Milner and recommended Decuir for Cyan. Decuir actually wasn't sure about going into games, but luckily for all

SOME OF THE MOST IMPORTANT AND INFAMOUS TITLES TO BE RELEASED ON ATARI'S POPULAR HOME CONSOLE



PITFALL!
YEAR RELEASED: 1982

Pitfall! was a massive deal on the 2600. It sold over 4 million units, becoming the second bestselling game on the system after *Pac-Man*. The game had its own cartoon show and helped establish Activision as a publishing force to be reckoned with. It's also one of the earliest examples of a scrolling platformer – games before it were static, single-screen affairs – and while Pitfall Harry wasn't an official Atari mascot, many gamers instantly associated him with the 2600 console.



RIVER RAID
YEAR RELEASED: 1982

Created by ex-Atari coder Carol Shaw, and based on Atari's 1978 coin-op *Sky Raider*, *River Raid* was another hit for the fledgling Activision and became the tenth bestselling game on the system, with sales of over 1 million. Like many Activision games it's an incredibly slick piece of coding that pushed the machine in ways that were rarely seen on the system. *River Raid* was an interesting shooter featuring rolling terrain that was dynamically generated during play.



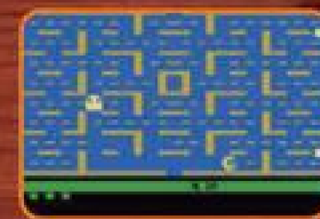
MISSILE COMMAND
YEAR RELEASED: 1980

After the graphically disappointing *Space Invaders*, *Missile Command* proved that it was possible to create an extremely good reproduction of a hit arcade game on Atari's console. There were obviously compromises made to the game – it's missing the planes and UFOs, for example – but it's still an extremely fun game. It proved to be an equally big hit on the Atari 2600, eventually going on to sell over 2.5 million units, making it the system's fourth bestselling game.



THE EMPIRE STRIKES BACK
YEAR RELEASED: 1982

Although *The Empire Strikes Back* wasn't the first videogame to be based on a film or TV licence, it was the first to prove that it was possible to capture the excitement of the original product. The first ever game to be based on the *Star Wars* franchise saw you zooming around in a Snowspeeder while taking down Imperial AT-ATs. Extremely popular at the time and later converted to the Intellivision, it started a rich gaming franchise that continues to this day.



PAC-MAN
YEAR RELEASED: 1982

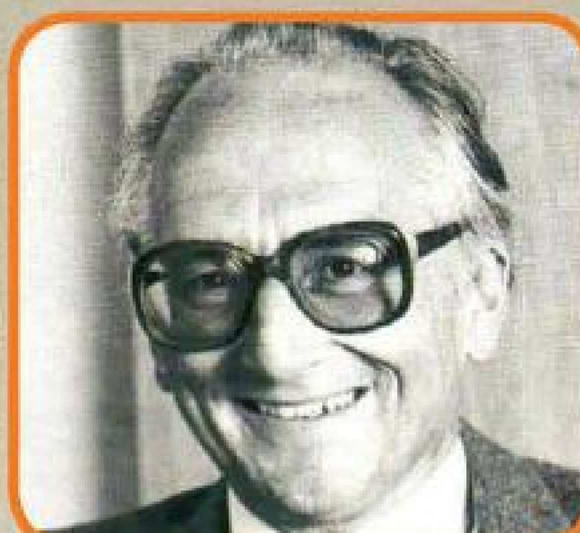
When *Pac-Man* was being created by Tod Frye, Atari was so sure of its success that it simply assumed 10 million 2600 owners would rush out and buy it. Not only that, but it thought more people would buy the machine to play it (it was a pack-in title), leading Atari to order 12 million units on the assumption that predicted sales would reach $500 million. The plan backfired, and while it shifted 7 million units, it created a massive number of unsold carts, which many attribute to Atari Inc's eventual fate.

of us he was convinced by his father and another friend. "My father said, 'Pick the job that teaches you more,' and Cyan/Atari had the potential to teach chip design. My friend Greg said: 'You can do good for the world with games. Most people are sick by their own hand – smoking, bad eating, etc – and are lonesome and bored. Go ahead and entertain them.'"

Decuir immediately set about debugging the demo system, and one of the first things he had to do was have an account created on the DEC PDP-11 timesharing system the group was using for cross-assembling the demo game code. Needing a password, he chose the name of his favourite bike, Stella, which he still owns and rides to this day. The name would stick and eventually become the code name for the 2600's custom graphics chip, but in the meantime Decuir's goal was getting the *Tank* game further along in time for a February 1976 demonstration to Bushnell, Keenan and Alcorn. The prototype's architecture at that time was influenced by the coin-op arcade game design that Cyan had also done for Atari. That would certainly make sense, given that the goal of the 2600 was to play all Atari's early and mid-Seventies coin-op games.

In essence, it was a minimalist version of the features present in Atari's coin-ops. Everything was synced to the scan lines of the television display. What was to be displayed on the screen was then supported by separate hardware registers for the screen elements that were themselves split up. A separately generated background filed with 'stamped' graphic items was termed as the 'playfield' – a term borrowed from pinball. The objects that were player-controlled or interactive were termed player/missile objects and used separate hardware object generation known today as 'sprites'. In this case, each object to be displayed would be generated separately by loading the individual pixel descriptions for each into several hardware registers. Both the playfield and player registers could be reused by the programmer per each scan line, meaning you could have multiple player objects – a concept done to keep costs down but that would ultimately lead to a very flexible system that allowed graphics capabilities far beyond what was originally envisioned.

When February rolled around, also on the agenda for that day was a demonstration of a prototype videophone system that Cyan had designed.



The man behind the 6502, Chuck Peddle also helped spec out the proof of concept for the 2600 and find a second source to manufacture his chips for Atari.

However, only one of the two would make it past approval stage for full product design down at Atari, as Bushnell hilariously dismissed the videophone by mooning the team through it.

Now that the project was approved to move on and come down from Cyan to Atari, Atari knew it was going to have to bring someone on board to design the full custom graphics chip. None of the engineers in the coin division would be up to the task of the advanced custom chip layout design called VLSI (very-large-scale integration). Likewise, Harold Lee, who had designed the custom



REVISIONS, REVISIONS...

THE 2600 WENT THROUGH SEVERAL REVISIONS DURING ITS TIME ON THE MARKET, AS WELL AS HAVING ALTERNATIVE VERSIONS AVAILABLE THROUGH SEARS UNDER ITS TELE-GAMES LABEL

HEAVY SIXER
The original 1977 model with its six console levers, thick moulded plastic, heavy internal shielding, faux woodgrain and deluxe controllers. Notable for being manufactured in Sunnyvale.

LIGHT SIXER
Released between 1978 and 1980. Cost-reduced exterior and joysticks.

2600-A
Four-switch model, difficulty switches moved to the back. Last model with woodgrain effect.

2600
Four-switch all-black model called the 'Darth Vader' by collectors. First actual use of 2600 as the name of the console instead of its model number, mainly because of the simultaneous release of the Atari 5200 in 1982.

ATARI 2800
Released 1983. Rare Japanese version of the 2600. Released in the US as the Sears Video Arcade II.

2600 JR
Released in 1985. The final revision, extremely cost reduced.



Clockwise starting top right: Atari 2800, 2600-A with Spectravideo CompuMate computer expansion, Heavy Sixer, unreleased Kee Games prototype version.

'*Pong*-on-a-chip' that launched Atari's consumer division, didn't feel he was up to the task either. "You could pack a lot more logic in when dynamic logic became available," he explained. "I'd never designed a chip like that before, so I didn't want to do that, and that's when I brought Jay Miner to do it since he'd already had experience in designing those chips."

Alcorn and Lee had known about Miner because of his previous work on helping them with the '*Pong*-on-a-chip' layout at Synertek. Now, after setting up Synertek as a major secondary source for the 6502 chip, which was fast gaining popularity, Alcorn used that as leverage for prying Miner away. Promising large chip orders in the near future, as Atari was beginning to use the 6502 in coin-ops as well, he was able to get Miner under an Atari badge. Decuir had already been notified after the February demonstration that he was moving down to Atari, and with Miner on board, he'd be apprenticing directly under the man Alcorn described as being "the best chip layout guy on the planet". Together they would be leading the transition from the Cyan proof of concept to a fully produced game console, complete with the first-of-its-kind custom graphics chip. Larry Wagner was also added as head of software development, and he would eventually be in charge of hiring the programmers who did the first ten launch games – many of whom would go on to form Activision.

Most of the engineering for the consumer division, since it was still just a small group of people, was taking place among their coin-op division colleagues. After all, Atari had just started its foray into the consumer arena, and its main bread and butter at that time was still arcade games. Alcorn knew that Atari needed to keep the revolutionary console a secret from competitors, but also, more importantly, from a lot of management: "My job was to keep the hounds away from these guys, to keep away the corporate bean counters and just let them do their job, which was about 50 per cent of my time."

He rented a secret location far away on Division Street to let the expanded team do their work. That didn't last long, as without telling him, head of coin-op engineering Steve Bristow rented the building right next door for Atari's new pinball operations.

STELLA TO VIDEO COMPUTER SYSTEM

Under Miner's leadership, the 2600's architecture was formalised, restructuring the internal memory map and planned hardware registers, and making sure the synchronisation between the 6507 and the custom graphics chip was so tight that there was less memory needed. RAM was costly for the time, so the console would have to make do with the 128 bytes on the 2600's third chip, called RIOT (RAM-I/O-Timer).

The custom graphics chip had now been renamed Stella by Miner after seeing Decuir's use of it, and soon Miner's boss, Bob Brown, used it for the name of the entire project. In the meantime, Miner and Decuir took the bare-bones graphics processing done on the original prototype and began producing a gate-level version, which would be the exact one that carried over into chip form. By the time it was finished and moved into its early chip format, where it was renamed TIA (television interface adaptor), several major occurrences happened that would affect it both in the immediate and long term.

First and foremost was the sale of Atari Inc to Warner Communications, completed in October 1976. Atari had been in dire straits financially and had been looking for people to invest and inject much-needed cash to allow the company to continue to grow. When that didn't work, Bushnell and Keenan began looking for someone to sell the company to outright, and Warner came knocking with its deep pockets.

Second to happen was Atari's settlement with Magnavox in the beginning of June 1976 over patent lawsuits. Agreeing to pay a large sum and give free access to any Atari technology already produced or in production until June 1977, hiding the 2600 – now called the Video Computer System – was crucial. As such, it didn't make an appearance at the Consumer Electronics Show until after the deadline.

> "Everything in the VCS pointed to a high-end piece of entertainment equipment"

Last was the release of Fairchild's own microprocessor-based system in August of 1976. With Fairchild in the area and several engineers at Atari being friends with the system's designer, Jerry Lawson, they knew the console was coming. Jerry was even able to solve the issue on his console that had been plaguing Atari's design team, which was guarding against static discharge when removing cartridges – an answer that Atari quickly employed. But now, with Fairchild hitting the market first, it was clear where the future of home consoles lay. And as far as Manny Gerard, the new overseer of Atari for Warner, was concerned, the future of Atari was the 2600. Warner had that much faith in it.

By the time it was finally shown off in June 1977, the 2600 had taken on the characteristics of the flagship product Warner demanded and Atari wanted. A mix of heavy, stylised plastic and faux woodgrain designed by Doug Hardy and Fred Thompson, it was meant to fit visually in anyone's entertainment centre. It also featured a pair of deluxe arcade-style controllers to fulfil the requirements of playing the bulk of Atari's early arcade games – digital joysticks and analogue paddles – designed by Gerald Aamoth and John Hayashi. Also of note to those who saw it at the show was that, unlike Fairchild's console or any of the many *Pong* machines on the market, the 2600's sound was coming directly through the television's speakers instead of an internal speaker. With the much clearer sound output and the overall production value, everything pointed to a high-end piece of entertainment equipment.

Debuting in stores on 14 October 1977 with a set price of $199, Atari had immediately sold out of its entire initial 400,000-unit production run to retailers for that Christmas season. The consumer age at Atari had begun, and for millions of homes it was soon to be the Atari age.

DISSECTING THE ATARI 2600 JOYSTICK

IT'S ONE OF THE MOST ICONIC CONTROLLERS AROUND AND IS ARGUABLY AS ASSOCIATED WITH ATARI AS THE 2600 ITSELF. JOIN US, THEN, AS WE LOOK AT ONE OF THE MOST RECOGNISABLE JOYSTICKS OF ALL TIME



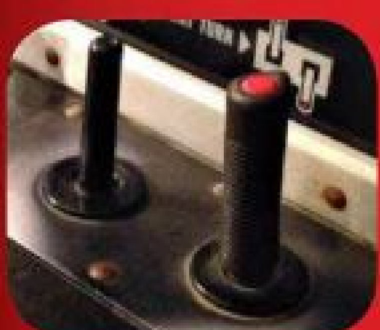
The deluxe nature of the CX-10 is readily apparent with the use of heavy springs for all four directional contacts and the fire button to provide an arcade-like floating feel to the stick.



Most fans are not aware that the launch version of the 2600 included a special joystick only seen with this model. Designated the CX-10, as with the console case, this model is a deluxe version. Seen here on the left compared to the more common CX-40 joystick on the right, the immediate difference is the presence of a heavy-duty rubber grip, complete with inlaid Atari logo. Also note the absence of the 'top' designation added to the CX-40s to help out confused first-time users.

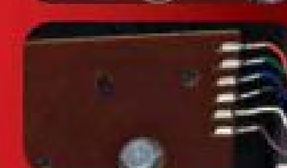


The 2600 joysticks, synonymous with Atari when you think of game controllers, were inspired by Atari/Kee Games' hit 1974 arcade game, *Tank*. With the original proof of concept of the 2600 based around playing a home version of the game, and with *Tank* included with the unit on the pack-in cartridge, *Combat*, the need to do so was obvious.



On the inside, the shapes of the controller PCB also differ in looks and layout, with the CX-10's six connectors split three by three.





The CX-40 instead uses a hard plastic disc to make contact with the controller PCB, giving it its more characteristic stiff feeling. The fire button still includes a spring, but it's a much lighter spring, providing less feedback than those on the CX-10.



Al Alcorn in the early Seventies. By the time of the 2600's design, Al was head of consumer engineering and overseeing Atari's expansion into its successful home products.

ATARI AS ITS OWN COMPETITOR

NOT KNOWN BY MANY, ATARI ACTUALLY WORKED ON TWO ALTERNATIVE SYSTEMS TO THE 2600

The first was a system that never saw regular production, called the Atari Game Brain. Meant as an alternative to the 2600's microprocessor-based architecture, each cartridge contains all the circuitry for each game. The console itself is almost empty, containing only wiring for the controls and hookups.

At first glance, the Game Brain looks like an attempt to cram every single control scheme in Atari's arcade games onto the surface of the console, with four direction buttons in lieu of joysticks. In fact, a Rolodex-style stack of cards was provided to show which buttons were used for each of the five initial games: *Video Music*, *Ultra Pong*, *Super Pong*, *Stunt Cycle* and *Video Pinball*.

Although it was cancelled, consoles with the same concept of full dedicated console hardware inside removable cartridges found their way onto the market in the form of the Coleco Telstar Arcade in the US and the SD-050 by Harimex in Europe.

Atari also hedged its bets on the future of the market with a dedicated home version of its *Tank* coin-op called *Tank II*. The console featured hardwired versions of the same joysticks planned for the 2600 and was actually shown alongside the 2600 at the June 1977 CES. When it was clear that the 2600 was in demand for the upcoming Christmas season, *Tank II* was unceremoniously dumped.

THE CLASSIC GAME

LORDS OF CHAOS

This cult follow-up to Julian Gollop's highly regarded *Chaos* is actually something of a hybrid, taking aspects of his equally well considered *Laser Squad* and merging them with its predecessor. This potentially risky move pays off, with the end result delivering arguably deeper, richer gaming than either of the earlier games. *Lords Of Chaos*' straightforward menu-driven controls make it relatively easy to get into, but behind this concession to accessibility lies sophisticated gameplay built on layers of complexity. Crucially, the title's RPG elements work seamlessly with its underlying focus on strategic combat, and its aesthetics are equally accomplished.



Your Wizard
You can choose spells, attributes, and a name for your character using the Wizard Designer.



Opposing Wizards
The three mages you battle are named Torquemada, Elbo Smogg, and Ragaril.



Giant Spiders
These are one of the most powerful land-bound creatures.



Vampires
Vampires can take flight to avoid ground attacks but must fight on terra firma.



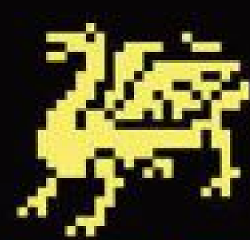
Pixies
Pixies are invisible to enemies, making them the perfect spy.



Unicorns
Unicorns are a good choice to ride into battle, as they have great stamina.



Gryphons
Gryphons will capably fly you across the battlefield.



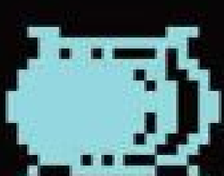
Golden Dragon
These mythical beasts can breathe fire but are difficult to conjure up.



Magic Fire
This is a powerful spell but can spread out of control.



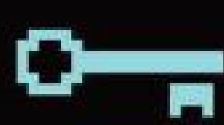
Gooey Blob
These spread like magic fire and harm undead creatures.



Cauldrons
These are used to mix magical potions.



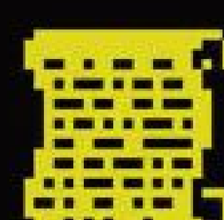
Vials
Vials hold beneficial potions, such as speed or strength.



Keys
Keys open doors and treasure chests.

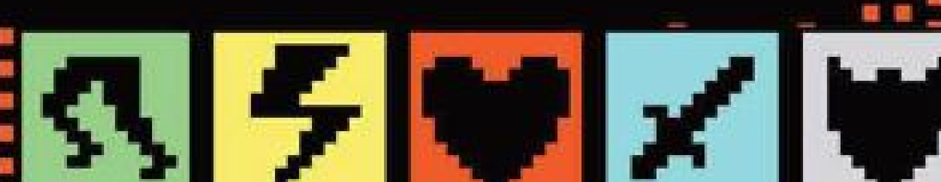


Treasure Chests
Aside from treasure, these chests can contain powerful weaponry.



Scrolls
Scrolls can reveal vital, though cryptic, clues.





MEMORABLE MOMENTS



A winning strategy

Gaming classics often transcend their genre to become celebrated as a great game, rather than just a great game of their type. *Lords Of Chaos* is a fine example of this; a title hard to pigeonhole in any conventional genre, which is also just accessible enough to attract attention beyond that of its natural audience. That being said, it caters equally well to devotees of strategy-based gaming by providing satisfying, slow-burn gameplay. Additionally, the game's clean design and attractive visuals make it one of the best-looking strategy titles on the Spectrum.



Attack with a 50-foot spider

There's no shortage of candidates for this category, as the game features an extensive, eclectic mix of creatures sourced from myths, legends and the natural world. And while riding an elephant into battle, flying a harpy over the playfield, or setting a vampire on your opposite number are all high points of the game, the most practical and reliable choice would have to be the giant spider. Admittedly, large arachnids lack wow factor, but since they can hold their own against almost any other creature, they should be your first choice when conjuring up soldiers, or guards for weaker creatures.



No wizard wheeze

Of the three wizards you do battle with, Elbo Smogg, the ruler of the Slayer's Dungeon, is the most challenging to defeat in hand-to-hand combat, and therefore the most memorable mage. Granted, the wizard Ragaril is technically harder to get the better of, but this is more down to the many puzzles and traps he sets within his domain, rather than his prowess in armed spell-casting. Smogg's tactics are to conjure up a veritable army of creatures, capable of tackling any you might have managed to summon yourself, before tossing a barrage of his favourite spells in your direction.



Beam me out, quickly!

Of the game's spells that aren't used to summon creatures, you would imagine the most useful would be one used to attack the enemy or defend yourself and your forces. In actual fact, the one piece of magic that no wizard should be without is the teleportation spell. Let's face it: even the most brilliant tactician can get it wrong, and the most reliable of attacks can go awry, leaving you on the losing side with little energy left in reserve. In this unenviable position, the safety net of your teleportation spell is the one you want to have left in your armoury.



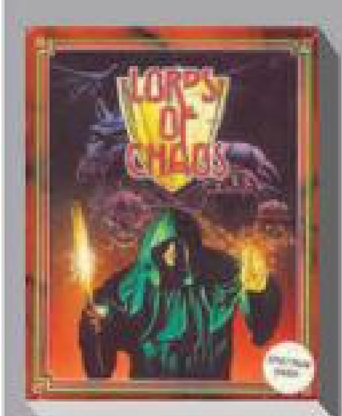
Mind like a steel trap

The game's first scenario, The Many Coloured Land, allows you to hone your skills, while its second, Slayer's Dungeon, is a stern test of everything you've learned. However, the third scenario, Ragaril's Domain, holds challenges of a slightly different type. The wizard Ragaril, unlike his predecessors, rules his domain through guile rather than brute magical force, and sends creatures to fight his battles for him. This would make reaching Ragaril and defeating him before he escapes hard enough, but while negotiating the maze to his lair you also have to avoid his traps and solve his devious puzzles.



Outstanding achievements

It's hard to pick one moment in a game of incremental progression, where you can lose yourself for hours at a time; instead, it's probably more useful to highlight a couple of achievements that provide great satisfaction. One early memorable moment is vanquishing the wizard Torquemada for the first time in the game's opening scenario, having first endured what seems like endless defeats at his hands. A much later milestone, reached after extensive play, is conjuring up the legendary golden dragon, a feat requiring healthy reserves of magical energy, a cauldron, and some extremely rare dragon herb.



IN THE KNOW

- **PLATFORM:** VARIOUS
- **PUBLISHER:** BLADE SOFTWARE
- **DEVELOPER:** MYTHOS GAMES
- **RELEASED:** 1990
- **GENRE:** TURN-BASED TACTICS
- **EXPECT TO PAY:** £10+

What the press said... ages ago



Your Sinclair

"Perhaps not the kind of fodder to keep die-hard arcadesters happy, but *D&D* fans, sword and sorcery nuts and strategy enthusiasts will lap it up. If you fall into any of these categories then you'll certainly want to check out *Lords Of Chaos*."

What we think

Time is kindest to those games with challenging gameplay or generous quantities of replay value. As *Lords Of Chaos* exhibits both of these qualities, it's unsurprising to find that the positive comments made on its release still hold true – it might even convert a few "die-hard arcadesters"!



In the chair with...

ANDREW BRAYBROOK

Andrew Braybrook created some of the greatest Commodore 64 games of all time, including Paradroid and Uridium, before disappearing. Now, in a Retro Gamer exclusive, he reveals the methods behind his game creation, his interest in music, and why he'll always love programming

LIKE HIS FRIEND Steve Turner, Andrew was working on computers long before he programmed his first game. Several meetings with Steve saw Andrew joining his company, Graftgold, and his innovative games and slick coding soon earned accolades from reviewers and gamers alike. After creating many memorable games for the C64, Braybrook turned his talents to the Amiga, and continued to deliver the same innovative and imaginative games. Graftgold struggled in the PlayStation era and eventually folded, and Andrew vanished as well. Until now…

RETRO GAMER: What did you want to do when you were still at school?

ANDREW BRAYBROOK: I didn't have much idea of what I wanted to do when I was at school. My dad said airline pilot or bank manager were the best jobs. I'd have been happy driving a JCB. The grammar school I went to was university-oriented. The careers office just had brochures for the universities. By the end of A-levels I'd had my fill of education and was keen to earn some money to buy a nice bass guitar. I went to the careers office and asked about jobs. They said: 'Just apply to some universities and they'll help you when you've graduated.' Computers hadn't really made an impact at that time. They had a desk that contained a 1K RAM computer with a card reader and a printer. There was no video screen, so I never twigged the importance of that. The Electronics Club had a Commodore PET, but I wasn't in it so that passed me by too.



RG: So what was your introduction to videogames?

AB: It was probably the guys I worked with at GEC Marconi – Robert, Richard and Keith – in my first job, who introduced me to *Attack Of The Mutant Camels* on the Commodore 64. We'd meet up at the weekends and play computer games. Robert had a VIC-20 as well. It wasn't until some years later when I met Jeff Minter that I realised some of the tricks he had to do to get that complex a program written in 3K of RAM, with all the graphics and sounds too. My smallest game ran to about 24K.

RG: Is it true that you're a big shoot-'em-up fan?

AB: We definitely got our money's worth out of Jeff Minter's early games. We played *Matrix, Attack Of The Mutant Camels, Revenge Of The Mutant Camels*… At that stage I still hadn't got any ambition to write on micros, but I was playing the arcade games of the day: *Breakout, Space Invaders, Asteroids, Battlezone, Galaxian* and *Pac-Man*. Each pub had a different game, so we would tour round them all on a Friday evening to play each game. We were quite competitive and always ended up in the chip shop playing *Asteroids*. We liked the challenge and the speed of the games.

RG: What was the first computer you owned?

AB: It was quite a lot later when I bought a computer. It was my dad who bought a ZX80, then a ZX81, and a Dragon 32. I started writing games in BASIC on those to start with. I was also staying late at Marconi and writing games in COBOL by that time. So the first computer I owned… that would have been a Commodore 64 that I bought about five years later. Up until then I had only used the Commodore 64 at Graftgold and I was still visiting the guys from GEC.

RG: How did you learn computer code? Were you self-taught?

AB: Steve Turner was writing for the ZX Spectrum in 1983 in machine code – not even assembler at that time; he was writing code in hexadecimal. We must have talked about me joining him writing games a few times. We decided that I should



SELECTED TIMELINE

- **3D Lunattack (conversion)** 1985
- **Gribbly's Day Out** 1985
- **Paradroid** 1985
- **Uridium** 1986
- **Alleykat** 1986
- **Morpheus** 1987
- **Intensity** 1988
- **Gribbly's Special Day Out** 1989
- **Heavy Metal Paradroid** 1989
- **Rainbow Islands** 1990
- **Paradroid 90** 1990
- **Simulcra** 1990
- **Fire & Ice** 1992
- **Fire & Ice Christmas Special Edition** 1992
- **Uridium 2** 1993
- **Virocop** 1995
- **Hardcorps** Cancelled

"Making games was the best job in the world. The weekends were an inconvenience because I couldn't go to the office"

SUPPORT a different platform and cited the Dragon 32 as the second most popular machine. So I bought a book on 6809 assembler and started to write some simple routines to interface to BASIC. It was slow going because I didn't have an assembler either. I wrote a plot routine to display a spaceship on the screen; I was working in hexadecimal too. That was too much like hard work so I bought an assembler for the Dragon 32. That made life a lot easier. I had learnt the power of assembler from the Marconi technical support team. Assembler was so much faster than COBOL, but they always hid the assembler books when I went to visit them. I had a rather idealistic approach, though; it takes a while to get a grip on how little you could do 50 times a second on those computers.

RG: What do you enjoy about coding?

AB: Coding is an almost endless repeat cycle of finding and fixing problems, and they are self-created! Only at the very end does it work without any problems. If we could just write error-free code then there wouldn't ever be any problems to solve. I do get a great deal of satisfaction from fixing problems, though, as it brings out the detective in me. The creative side can be a bind too when you can't think of something interesting to do, but it is rewarding trying to impress people. The best bit for me, though, was the variety of the work because every day is solving something different or creating something new. Taking a game right from initial design through to promoting and demoing the final

* FIVE TO PLAY

PARADROID



BACK IN ISSUE 96, readers voted *Paradroid* as the best C64 game of all time. It's a statement we find impossible to disagree with. *Paradroid* was Andrew's second game for the C64 and it's easily his finest moment.

Taking control of a weaker prototype droid called the Influence Device, you must traverse a huge, multi-tiered ship and take out all the other droids that inhabit it. While these mechanoids are far more powerful than your character, your droid has the ability to take over stronger machines, gaining access to their greater armour and firepower, via a neat little mini-game. *Paradroid* effortlessly blends hardcore shooting with a healthy dose of strategy to become one of the C64's most unusual and entertaining titles. Braybrook returned to the world of *Paradroid* twice, first with a tweaked update in 1989's *Heavy Metal Paradroid*, and then with a full-blown Amiga sequel, *Paradroid 90*, in 1990. The original will always be our favourite, though.

URIDIUM



ANDREW WAS A huge fan of shoot-'em-ups, so many of his games emulated the titles he used to play in various pubs and chip shops. *Uridium* was easily one of his best, combining typically clever coding with solid gameplay that was polished to perfection. Taking control of the Manta Class space fighter, you must fly over one of 15 huge dreadnoughts, taking out installations and defending ships. Survive enough waves and you'll get to land your fighter, earn a brief rest, then move on to the next dreadnought. It's a simple game, to be sure, but one that, even now, is amazingly exhilarating to play through.

RAINBOW ISLANDS



RAINBOW ISLANDS IS quite simply one of the finest arcade conversions on the Amiga, even if it is missing a few little elements here and there. Andrew was once again on coding duties, while John Cumming worked on the frightfully authentic visuals. Abetted by Steve Turner's rousing rendition of the original theme tune, *Rainbow Islands* was a resounding success for Graftgold and proved just how good the Amiga was at emulating hit arcade games of the time. What's most interesting about *Rainbow Islands* is that it's Graftgold's only arcade conversion. Imagine if it had got its hands on some of the other popular arcade games of the time…

GRIBBLY'S DAY OUT



ANDREW'S FIRST ORIGINAL game on the C64 remains a highly entertaining title and another refreshing mishmash of genres. Taking control of the titular Gribbly, you must explore huge caverns and rescue the little gribblets from a selection of nasty enemies. Clever gameplay mechanics, especially the evolving enemies, give an indication of the brilliance that would come in Andrew's later games, while the silky smooth scrolling and larger-than-life graphics proved that he was no slouch when it came to coding. Then there's Gribbly himself, who's full of character, beaming when things go his way and noticeably upset when they get on top of him.

FIRE & ICE



GRAFTGOLD PRODUCED TWO sequels and one arcade conversion for the Amiga. The rest of its four releases for the machine were all original ideas. *Fire & Ice* is one such example, and while its lead character, Cool Coyote, looks a little like Sega's Sonic, *Fire & Ice* doesn't feel like a simple *Sonic* clone. Unlike similar platformers that enable you to dispatch enemies with a hit on the head, *Fire & Ice* requires you to freeze critters first. The use of freezing becomes quite inventive on later stages, while the responsive controls and gorgeous visuals are reminiscent of many console platformers of the time. Very impressive.

game gives you an insight into a lot of different aspects of the business.

RG: Was there a particular language you preferred using?

AB: We always used assembler on 8-bit, except where Steve didn't have a Spectrum assembler that he liked, so he was writing in machine code. Assembler is 'assembled' into machine code, so they are the same, but one is much easier to read! We also wrote in assembler on 16-bit and only crossed over to C when we got to the PC, PlayStation and Sega Saturn. By that time even writing in assembler was getting difficult because the CPU was reading more than one instruction at a time. I did write a movie display function for our last PC game in 8086 assembler because we needed raw speed, but mostly C gave good enough results. Writing in assembler is very low-level, but it was the fastest a computer chip could get the job done – the no-fat approach. We'd study our scrolling routines to try to make them just one cycle faster. One technique we used was to change the background colour between functions so we'd get a constant display on screen at the sides to show where all the time was being used. The idea was to get everything moved within one TV frame, a 50th of a second. So you needed to know where the time was being spent.

RG: Like Steve, your initial programming skills weren't in gaming. How did this help with game design? Did it make you more methodical?

AB: I'd had a good, thorough training at GEC Marconi and knew how to work independently and with other team members. I think we both had good methodical approaches to solving problems. I have come to learn that IT is all about getting things wrong until the very last change when you finally get it right and the program is done. Don't stop until you're sure you've got to that point. With games, once it was released it had to be right; you suddenly have a lot of people testing the code and you can't fix it if they find a fault. Maybe nowadays that doesn't apply with the hotfixes that are available. Of course, the code is much bigger and more complex so there's bound to be mistakes. Coding never got quicker because the games got bigger, and even though we reused old code, we always added more. *Gribbly's Day Out* took about three months to write, and I did the graphics and level design in that time too. *Intensity* took nine months to write and design. *Uridium 2* took 18 months to code with probably about the same time spent on graphics, and that's just such a long time to be working on one title.

RG: Tell us a little about *Assassin*.

AB: This was my first multiplayer game, written in COBOL. It was set in a multi-level dungeon and the last player alive wins. I wanted it to be in real-time, which meant getting a bit of help from Tech Services to allow one computer to monitor the game and collect information about all the players as they move and fire. There were doorways between the levels and players could only see other players by line of sight. It was a top-down view, so certainly a prototype for *Paradroid*.



» Andrew cites his relationship with Steve Turner as one of the most influential of his life.

> **"I think it's rare that you meet someone that has such an important effect on your life"**

We added computer-run 'assassins' that walked around the level and were quite adept at killing the players. So we tended to have to gang up on the assassins before taking each other out. Come five o'clock we'd occupy most of the terminals and set up a session. One player, Splodge, worked out a technique for rapid firing that I hadn't anticipated. He was winning every game until HR showed us how he was doing it. Once we all knew the trick it evened things up a bit. I was always impressed with his lateral-thinking ability.

RG: How did your friendship with Steve Turner form?

AB: I first saw Steve when our guitarist, who worked with Steve and is also called Steve, got him an audition with another band in our town. We went along to watch. He got the job and played with them for some time. There was a fair amount of equipment-lending in those days and Steve T lent us some gear for a gig we were doing. It's difficult to remember now, but we both had an interest in the early arcade games and used to tour the local hostelries to play the different games on offer. We also liked similar music and got interested in the home computers of the day. At some point Steve T joined Steve R and I in our band: No Class. We then decided to think up a new band name. I don't think we ever did finalise a new name, though. Much later we recorded a couple of demo tapes and naturally put No Class on the label. I think it's rare that you meet someone that has such an important effect on your life – maybe only four or five people in a whole lifetime. I owe a great deal to both Steves, as people who influenced me a lot in my life choices. We all still keep in touch and we know that if we ever needed some help then we'd all be there for each other. I don't suppose we'll ever have a Blues Brothers moment and try to get the band back together, but we all love music.

RG: What sort of music did you play, and how serious were you?

AB: I used to work the sound desk, then the bassist had to leave to concentrate on his studying, so they auditioned a couple of people, and then someone said that as I had long hair I should have a go. I learned a couple of songs and got the job. We started off playing rock covers: Hawkwind, Deep Purple, Black Sabbath. We did play some original songs too. I think it was quite instrumental – pun intended – in me wanting to get a job to pay for equipment rather than going off to university. My first gig was in a marquee in a field. We got complaints about the noise from one and a half miles away, and driving out of the field caused my car's exhaust to fall off. We used to rehearse once a week, which is not often enough. We did take it seriously and everyone wants to be a rock star, but it was just a fun thing for me to do. I never expected it to be my day job.

RG: Do you still jam with Steve now?

AB: Steve comes over and my guitars get played properly from time to time. We'd need a drummer to keep the beat, though. Actually Steve's the improviser; I tend to want to know exactly what all the notes are before I start. I must make more time to figure out how to play guitar properly now that I have some six-strings. I've started a small collection of guitars and basses. People say they come to my house to die, but I'll get there.

RG: Like Steve, you started off as a commercial programmer. Why did you move into games?

AB: There was a fairly hostile takeover of the computer centre where I worked, fuelled by a



PERSONAL vendetta between upper management. The whole place got reorganised and it became clear that we were going to get shut down; everyone was unhappy, so I was looking for another job. Steve had a similar experience at his place, and left to start writing a game. After a couple of months, Steve found a publisher and was on his third game. He had started earning royalties but was finding it boring working on his own. I didn't have to think twice about the chance to write a game for a home computer. I had written some BASIC games on the Dragon 32 and was keen to try some assembler. Writing games is part creativity and part programming, which suited us both.

RG: Did you play any of Steve's early games?

AB: My first games were conversions of Steve's, so the games were already largely designed. They already worked. Writing them certainly involved a fair amount of playtesting. I just had to make my versions play as well as his. I got to playtest Steve's next creations too, which were *Avalon* and *Dragontorc*. I spent quite a while playing those...

RG: What was it like having one of your best friends as your boss?

AB: I never really thought of it as a boss/employee situation. We worked on our own games, but it was always Steve's business and my job. It was a pretty good democracy, and as we had both worked in big companies we kept working a normal nine-to-five day. We usually both went off to the publisher together. We worked in Steve's dining room and just got on with the job. When the royalty statements came in we were quite competitive about who sold the most tapes that month.

> "I get a lot of satisfaction from fixing problems, as it brings out the detective in me"

RG: What was it like in the early days of Graftgold?

AB: Things were going quite well so Steve decided to create a limited company. We changed from ST Software to Graftgold. There were just the two of us and Steve moved house, so I had to drive a couple of miles to get there. He did up a room out the back of his garage and we put a couple of desks in there. We got PCs to write the games on and used proper development kits. It was getting more professional than just using the Commodore 64 and Spectrum on their own. *Uridium* and *Alleykat* were written there. I got a trip to Chicago to get a conversion started, and we started winning some awards in the magazines. It was a really good time because we had total design freedom and were not on advances, just royalties. I earned enough to put a deposit on my first house, so it really got me started.

RG: Where did the idea for *Uridium* originate?

AB: I'd just finished *Paradroid* and was keen to write a game that ran at 50 frames per second. All arcade games ran at that sort of speed and I could easily see that scrolling quality was being lost. I wanted a game that scrolled quickly, and that only looks good if the screen is being updated at the same speed as the TV monitor.

RG: And how does it feel knowing our readers voted *Paradroid* as their favourite C64 game?

AB: That's certainly a great honour. It's the game that put Graftgold on the C64 map, and I'm impressed that it has endured.

RG: Some of your best work was on the C64. What is it you like about the system?

AB: The C64 had a lot of flexibility. My first C64 game used its bitmap mode, and I bet not many games did. That was like the Spectrum and Dragon 32. The clever guys, though, were using the character modes, which allowed smooth scrolling, and the sprites. Character modes also let us animate the backgrounds and change large areas quickly. It [better] matched the arcade games of the time, so we had plenty of material to observe and draw from. It was quick to develop ideas on. One of my favourite things was designing fonts. Jeff Minter always liked to do different fonts and it got a bit limiting sticking to 8x8 pixel blocks, especially when the letters have to be drawn in 7x7 pixels to leave gaps. So for *Gribbly's* I went large and did 8x16 and 16x16 pixel letters. There are two editions of *Gribbly's Day Out*, each with a different font and 16 different levels. *Paradroid* and *Uridium* used a similar system. By the time I got to *Morpheus* I had 24x16 fonts. Mainly, though, the game designs had to be good and we weren't trying to make things too complicated.

RG: So what did the C64 offer over its 8-bit peers?

AB: The C64 just had a good balance of sprites and colour modes and was professional enough that the chips were easy to use, and Commodore did a disk drive and a development kit early on. [After] seeing the hassles Steve had with getting colour onto the screen on the Spectrum, I was quite happy with what I had. I did snooker myself a bit at one point because some colours were shared across all the sprites and I wanted to use a couple of particular colours that made it difficult for me to draw the graphics and make them look nice. Sometimes it takes some other people's input to say: 'Try it this way instead.'

RG: So it's a learning process?

AB: You never stop learning; there's always something new to try. There



» Andrew had a huge love of arcade shooters. *Uridium 2* is the proof of that.

* NUMBER CRUNCHING

89 average *Alleykat*, *Gribbly's Special Day Out*, *Intensity*, *Morpheus*, *Paradroid* and *Uridium* scored in *Zzap!64*

18 months was how long it took Andrew to complete *Uridium 2* on the Amiga

1983 was the year when Andrew decided to start working with friend Steve Turner

Paradroid scored **97%** in *Zzap!64*. It remains one of the highest-scoring games in the magazine's history

Gribbly's Day Out took **3** months to finish. *Intensity* took a total of **9** months to complete

Andrew's excellent conversion of Taito's *Rainbow Islands* was released in **1990**

A total of **5** people worked on *Fire & Ice*

A total of **15** dreadnoughts must be defeated in *Uridium*

£2.99 was the budget price of *Heavy Metal Paradroid* in **1989**

8 people were involved with *Virocop* on the Amiga

was a natural progression through the games that I did where I was learning how to do things. Probably I'd not have invented what became known as a sprite multiplexer on my own. That was a method of reusing the eight hardware sprites to get more than eight objects on screen at once. Us games programmers met up from time to time and discussed coding, geeks that we are, and we were keen to show off ideas to each other.

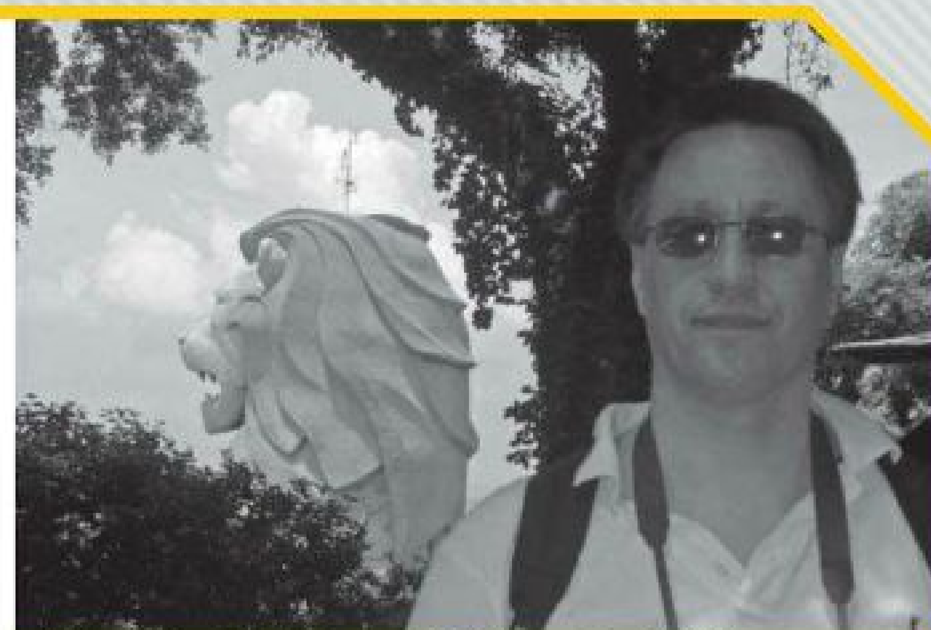
Once you know something can be done, it's just a case of deciding how to do it. I had designed games with more than eight objects in the game arena, but only eight on screen at any time, and I hadn't thought how to get more than eight on screen at once. It's only later when you start to understand what the graphics chips are doing that you see how to harness that. It also sometimes takes seeing how other computer hardware works to make a breakthrough. That gave the game designs a new lease on life, and some great arcade conversions were done using multiplexer techniques, like *Terra Cresta*.

RG: Why do you only have a single Spectrum credit? Did you not like the machine?

AB: I think my only involvement with *Astroclone* was as chief playtester. I think Steve was at least using a proper assembler by this time rather than programming in machine code, keying strings of hexadecimal into files. I never learned Z80 code, as used on the Spectrum and Amstrad, though I was envious of the number of registers available on the chip – the 6502 chip just had three. We used to share our troubles and try to help each other with coding issues, so I picked up the basics. Converting Steve's early games had to be done mainly at a high level, and I rewrote the games by copying the concepts. To try to copy code line by line from a lot of registers to a few would result in very inefficient code; you have to redesign code to fit what you have. At least that way I got to learn how games work rather than just convert code.

RG: Why didn't you code for the Amstrad CPC?

AB: The Amstrad came along a bit late. Steve did some conversions of his games, as the Spectrum and Amstrad had the same Z80 chip; it meant he could reuse a lot of the game code. By that time I had my heart set on learning 68000 for the Amiga and ST. Steve enjoys a challenge, like 'convert those 20,000 lines of code in a fortnight', but I prefer to start afresh.



» Andrew missed out on coding for the Spectrum and CPC by jumping straight to the 16-bit platforms.

RG: Did you make any C64 games that never saw the light of day?

AB: I was working on another game after *Intensity* and had a title screen and a game screen demo. I was getting bogged down with colour choices again and was mighty keen to get to work on the 16-bit machines. Finally we got the go-ahead from the publisher, so since I was still playing with formats and didn't have a game design nailed down, we put that one away. I had managed to design a gameplay area made out of hexagons, so I wanted six-way movement rather than four. I had cells growing eggs and there were going to be mutations. Possibly still got a disk somewhere with a demo. That's all it was. There's no bin with games that didn't make it. There were plenty of design changes and graphical looks that weren't quite right, but we always adapted. We did have an early version of *Fire & Ice* with a Gribbly-style bouncing character, but that was considered too radical.



RG: How do you feel about the C64 hitting its 30th anniversary?

AB: It's quite extraordinary that we can still play those games, albeit sometimes on emulators running on PCs. Actually that in itself says something. One computer has enough time and speed to pretend to be another computer and do all the work of all the chips. The C64 could do a third of a million instructions per second; now PCs can do about 1,000 million instructions per second, and the graphics chips can do so much more. So I actually wouldn't mind trying to put together a retro game on the PC with few limitations. However, what made the C64 and all the other 8-bit computers special was that it was relatively easy for anyone to cheaply get started and quickly put a game together. We ran out of RAM so we had to finish the game! It was a special time and I feel lucky for the opportunity to get into writing games, as it was the best job in the world. Now there is a lot of commercial pressure and you need a large team to put a game together, so it's not so easy. We get the occasional letter and see people just starting university wanting to write a 3D *Paradroid* variant, but we haven't seen anyone finish one. I think the amount of work involved does overwhelm people.

RG: Do you have a favourite C64 game?

AB: There have certainly been a lot. Three of my favourites started on different platforms: *Elite*, *Dropzone* and *Manic Miner*, and the conversions weren't quite as good on the C64, so they shouldn't count. I even bought an Atari 600XL just to play *Dropzone*. I certainly played a lot of *Sheep In Space*, so that's probably the one for me.

RG: As Graftgold grew, did you find yourself having a more managerial role?

AB: We had been a two-man team for three years or so when we started to find other programmers. Gary Foreman was the first and he started off working from home. When Dominic [Robinson] and John [Cumming] joined we knew we needed a bigger office. At that time we were all 8-bit programmers and generally worked on our own graphics, though John started to do more graphical work. It was when we started 16-bit work with more colours and graphics resolution that we had to employ more graphics artists and divide up into teams. We had Jason [Page] doing programming and writing music and the sound and music players, so typically there would be one programmer, with one to three graphics artists working together. The sound and music was usually added quite late on, as it was best to design all the sound effects together and get the whole sound working once all the game events that would cause sounds were fairly well defined. Everyone on the team got involved in the game designs and made suggestions. The graphics artists became more responsible for level layouts and overall look, and there wasn't too much change. It helps to be diplomatic and flexible. Steve was the manager and was programming too. We had very self-motivated staff, so I was able to just concentrate on programming.

RG: How difficult was the transition from 2D gaming to 3D?

AB: *Simulcra* was our first game that really used 3D plotting. We had done 'pretend 3D' in the early days. We drew different sized images of the same object and carefully managed what was going on on-screen. Dominic did all the maths and *Simulcra* was plotting everything pixel by pixel on the bitmap. No fancy graphics cards there. He was really keen to be at the forefront of getting the code as fast as possible and work out all the tricks. Steve picked that game up and finished it with help in between and had learned all the maths too. I got involved in the gameplay only, and was still doing 'pretend 3D' with *Paradroid 90* and *Uridium 2*, representing depth with shadows but still rendering with pre-drawn graphics. The maths got a bit much for me. Steve seemed to enjoy it and got proper textured graphics working for *Moto-X*. We had a PlayStation version that used hardware to render, like graphics boards do on PCs now, but we had to write render routines to do the work on PCs without 3D cards. PC hardware went through a massive transition as boards were improved and DirectX was being developed.

RG: So it was a challenge?

AB: It felt like playing catch-up all the time. By that time the whole company was working on one game with specialists on the different versions and platforms. I was looking after the system code that was shared across all the platforms and helping out with algorithms and gameplay elements.



» [Amiga] *Fire & Ice* was typically Graftgold. Stunning to look at and filled with invention.

I also remember doing the PC sound routines and building in doppler-shifted frequencies so that planes flying overhead would sound realistic, and was balancing sounds in stereo, and trying to add a bit of random frequency change because the same sound effect, however good, gets monotonous after a while. That was a little trick shown to us by an Australian programmer in about 1985. He did a puzzle game and tuned the sound effects to a scale and varied the effects using musical pitches to make it pleasant to listen to. He was a very clever guy and had also developed a fast technique for doing collision detection that we used in all of our 2D games from *Uridium* on. I hope he picked up some tips from us too.

RG: When did you see the writing on the wall for Graftgold?

AB: In 1996 things came to a halt when we just couldn't get a publisher to sign anything up. Renegade had decided to push a lot of investment to Sensible Software, and that left us looking for other publishers. We couldn't place anything and our developments came to an end. We had managed to do some conversions but it was getting difficult. We had to lay some people off, which was really hard. We had a Japanese publisher on board who were really good to work with, but they changed their plans and that delayed our development. Steve had been working all hours and was getting worn down. He had to stop in the end. We didn't owe any money but we weren't making any. At the eleventh hour we got a visit from Perfect Entertainment and they offered to buy into Graftgold, tool us up with better technology and give us access to their publishers.

RG: That sounds perfect.

AB: It sounded like a good idea, and we had worked with them before at BT. So we set about doing a tank game, with them doing the graphics and paying the wages. We had everybody working on the one game, which made us very vulnerable to any issues with that. It was difficult and politics started to play a part. It just didn't work out. The worst bit seems to be having lost the rights to the games. Anyone starting out for themselves should look at protecting the design rights in a separate company from the one writing the games. That way you keep ownership if anything goes wrong.

RG: What do you do now and how does it compare to making games?

AB: I moved into programming for a business software house. Fortunately they were recruiting heavily and knew games programmers are a reasonably bright sort. My early experience at GEC looked good on the old CV too. I needed a bit of stability after going for a couple of months without any wages, like all the other Graftgold people. Fortunately things went pretty well there and I persuaded Steve to join me. So we worked together for another 12 years or so until he retired at the end of 2010.

RG: Doesn't it get dull making business software?

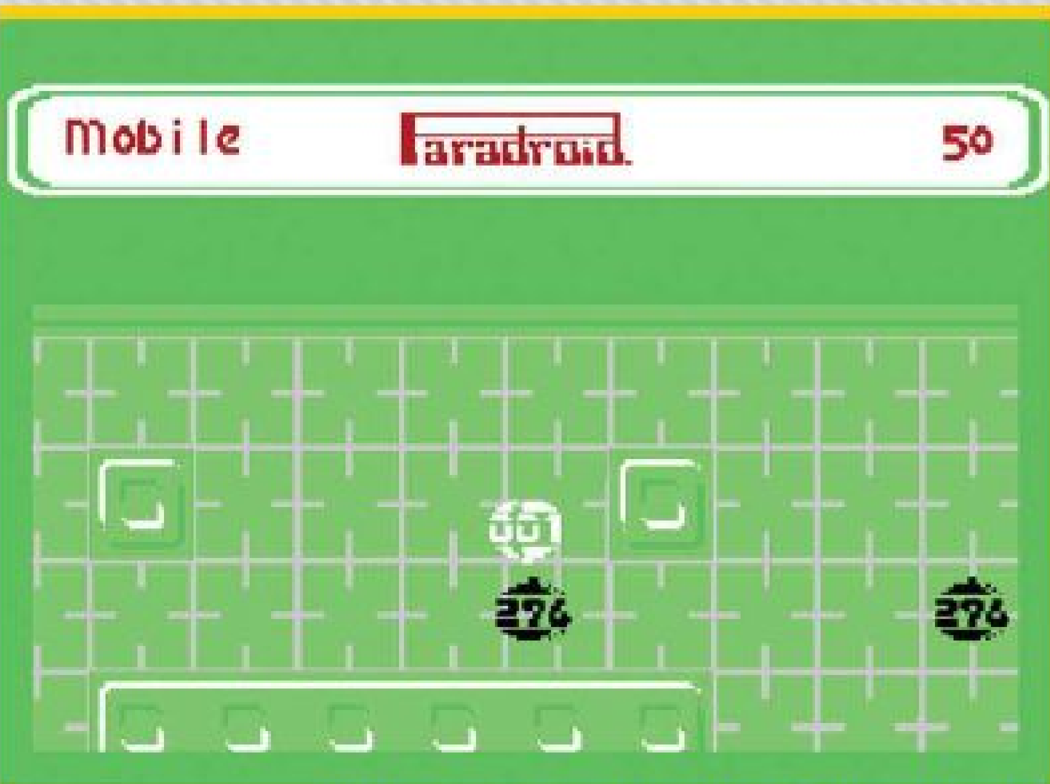
AB: There's not a lot of creativity in insurance programming, it has to be said. Making videogames was the best job in the world; the weekends were an inconvenience because I couldn't go to the office. Unfortunately the reality of paying the bills every month means that sometimes we can't do what we want any more. I'm open to suggestions, though!

RG: Many 8-bit developers like Jeff Minter and Peter Harrap are starting to make a name for themselves on iOS. Is this something you've considered?

AB: Jeff's fabulously adaptable; there doesn't seem to be any platform he can't learn quickly. I'm a lot slower. It takes me a couple of games to get used to the hardware. I haven't looked at other systems, but I am now thinking that I would like to work for myself again and do something more creative. I don't need the fame, but I would like more creativity. Maybe mobile apps are what I should be looking at…

RG: What's your best memory of being in the games industry?

AB: I've worked with some very talented people at Graftgold and other companies, like The Bitmap Brothers. All through the Eighties and the first half of the Nineties it was the best job ever. We got to go to shows, award ceremonies; I went to Germany, France, the US and got to meet many other programmers. Second place would be spending a night in a haunted inn in Didcot before a trip to Ludlow; I felt that there was someone dusting in my room in the early hours, and Steve reckons he saw a ghostly maid in his room. The best memory, though, still has to be the job interview one Friday evening in August 1983. 'Do you fancy coming and working for me writing games?' 'Yeah, all right.' 'Okay, let's go down the pub.' Quickest job interview I ever did!



» [C64] The numbers on the droids indicate how strong they are, and how tough they are to hack into.



» [C64] *Paradroid* is quite simply one of the best games to appear on the Commodore 64. Don't question us. Play it.



» [C64] This is your Influence Device. He's weak on armour and firepower but can take over other droids.

THE MAKING OF... PARADROID

Andrew reveals the story behind the creation of his highest-scoring Commodore 64 game

Retro Gamer: *Paradroid* successfully combines two distinct genres. Did you purposely try to create something different?
Andrew Braybrook: I always followed my nose, trying to design a game that I would enjoy playing. I was more interested in using the technology to do something new. I would start with building the scrolling system and see what dropped out. This game was designed almost overnight as I walked home. I wrote down all the ideas I wanted to incorporate on one sheet of paper and all of those ideas went in. One came out again at the last minute, as it had a difficult-to-use firing system. Just as well, really!

RG: Where did *Paradroid*'s droid-swapping originate?
AB: I think the idea germinated from an arcade game we used to play where you played a commando who could leap into a tank and use it. When it got hit you had a couple of seconds to leap out before it blew up, and then you could go and find another tank. I quite liked the two different states and that you were protected by the tank. Having decided on the radar-style display for the robots, I could save all the complex graphical images for all the directions of movement. It also allowed a greater variety of weapons, though it wasn't expressed fully until *Paradroid 90*. I understand that a number of games have used a similar system since, so it must be quite appealing.

RG: What was the reasoning behind *Heavy Metal Paradroid*?
AB: I was writing *Morpheus* and had a 'curved metal' graphical look that I had concocted in a graphics editor. It was early days for the game and I didn't have a game system to experiment with, so I decided to substitute the *Paradroid* background graphics with the *Morpheus* ones. I had taken delivery of a Commodore 128, and one of the features was that you could switch the CPU into double-speed mode while the raster was off the screen, which bought about 30 per cent more processing time. So I wanted to get *Paradroid*'s scrolling a bit smoother. It turned out that I could get it running smoother even on a Commodore 64 and I really liked the new graphical look, so we did a new turbo loader and re-released *Paradroid*.

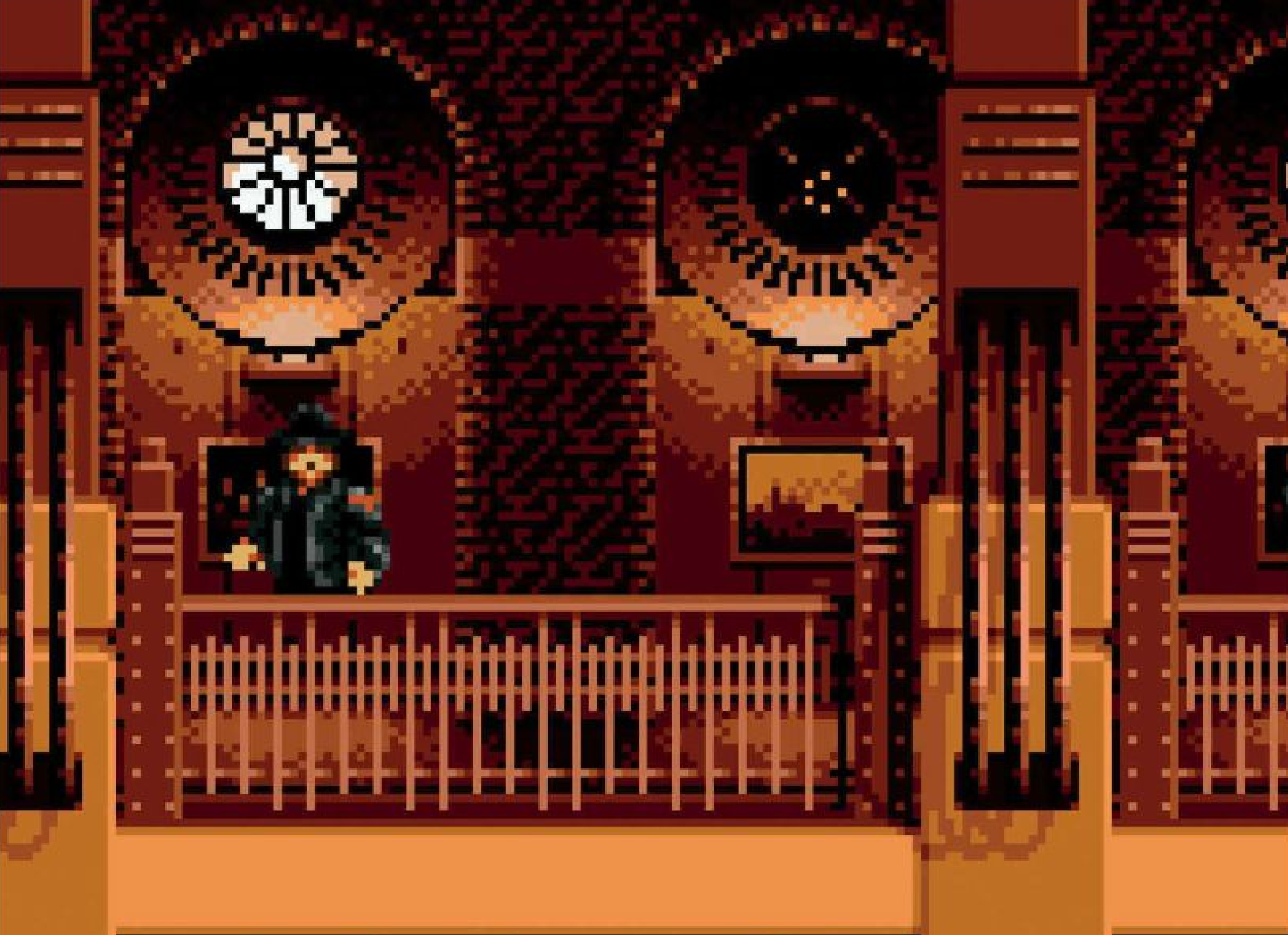
RG: What was it like working with Dominic Robinson on *Paradroid*'s sequel?
AB: Dominic was busy writing a game operating system for the Atari ST with a view to being able to run the same game almost unchanged on the Amiga, which was seen as the safest – but more unpopular – way of producing a game on both platforms. He was writing his own game, *Simulcra*, and we both used the operating system that he had written. If I had a tricky routine that I needed then Dominic would be able to write it. Everything worked pretty smoothly. I helped him out with some game algorithms too.

RG: Why do you think *Paradroid* remains so popular with gamers?
AB: I guess that everyone gets something different from a game. Maybe that's it. *Paradroid* is a very dynamic game; even though each ship is set up broadly the same, it is running everything on each deck as you arrive so it plays differently every time. As a player, you also have a great deal of freedom as to how to tackle the ship as a whole and each deck individually.

Special thanks to Andrew for his invaluable time.







Batman: The Videogame

THE FORGOTTEN BATMAN

» RETROREVIVAL



» MEGA DRIVE
» SUNSOFT
» 1990

Punch the term '*Batman* videogames' into Wikipedia and you'll be faced with a list of games as wide as the Joker's maniacal smile.

From Ocean's *Batman* and Konami's *Batman Returns*, to the more recent *Arkham Asylum*, the Caped Crusader has managed to keep a pretty clean gaming rap sheet in comparison to his lycra-clad peers, and personally we would connect a lot of his success with the fact of him not being particularly superhero-y.

Batman's abilities come from his gadgets rather than radioactive spiders, gamma ray exposure or simply through being a demigod, and this makes him far more akin to conventional gaming heroes.

His signature armaments are basically a boomerang weapon and a grappling hook, two things that are pretty familiar with gamers. Moreover, that he's just a wealthy man in a rubber suit means it doesn't look ridiculous when you see him take a beating from a guy dressed in stonewashed jeans and a leather waistcoat, too.

Loosely based on the 1989 Tim Burton movie, Sunsoft's *Batman: The Videogame* came out so late (1990) that it was largely ignored upon its release: the batmania generated by the blockbuster movie had died down considerably at the time it came out, and the videogame limelight – rightly so – had been hogged by Ocean's excellent *Batman: The Movie*.

It's a real shame too as *Batman: The Videogame* is a decent Mega Drive brawler that features some great visuals that do a great job in capturing the gothic look of the film, an emotive soundtrack from composer Naoki Kodaka (Blaster Master) and some diverse and entertaining little levels that play closely to the events of the film.

The beat-'em-up action is also counterbalanced somewhat by two side-scrolling shooter levels that see Batman and Vicki Vale escape the Joker in the Batmobile, and Bats trying to save Gotham by bursting the Smilex-filled clown balloons from inside his Batwing.

A decent *Batman* game that may have passed you by, if you're looking for an entertaining Caped Crusader game to kill a few hours, then this one comes highly recommended. ★

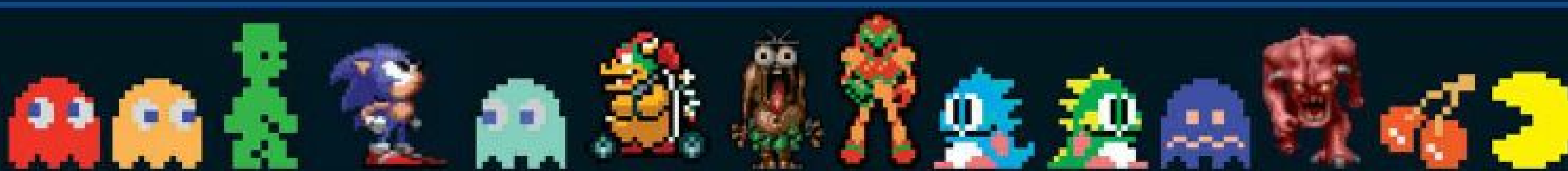
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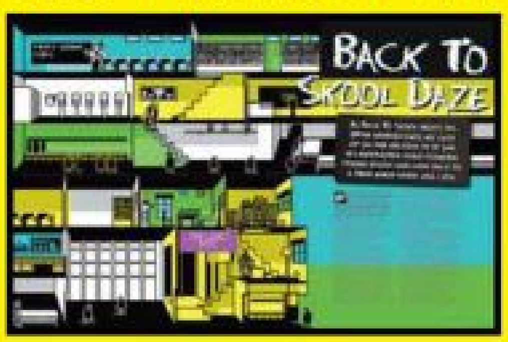




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